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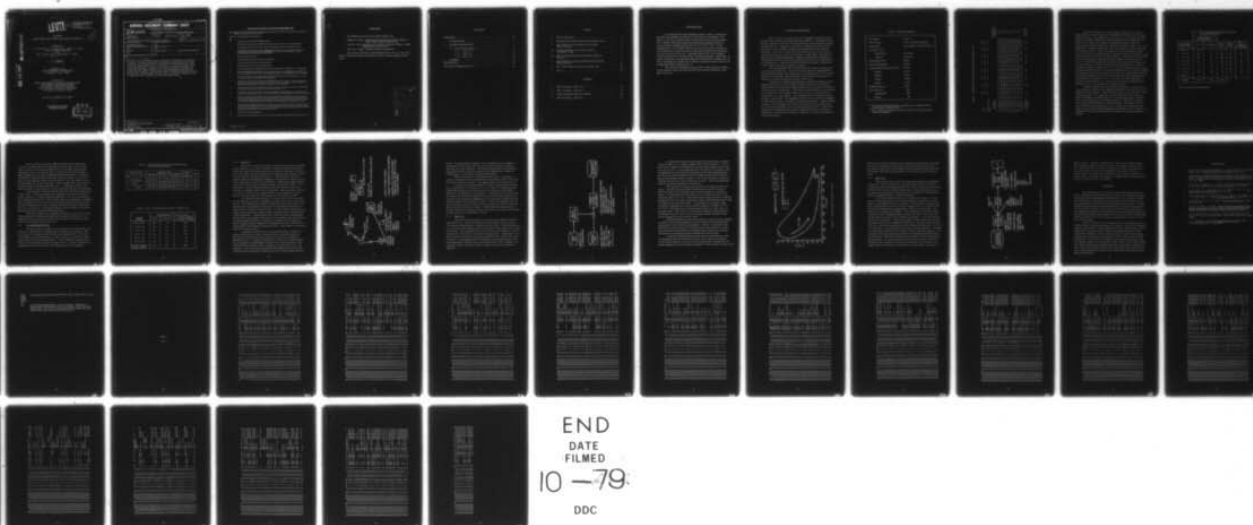
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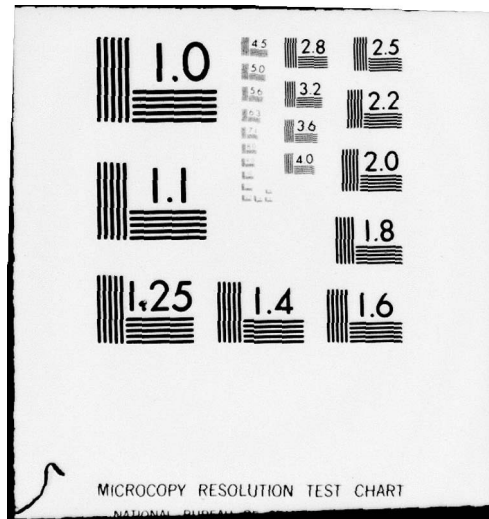
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15. OUTLINE, TABLE OF CONTENTS, SUMMARY, OR EQUIVALENT DESCRIPTION

*This catalogue*  
 Provides a list of infrared sources, detected at wavelength 2.7 micrometer. Confidence is achieved by multiple observations of each listed source and by careful computer processing of the satellite observational data. Every source has been observed on two or more days or at times on the same day, at least 20 min apart. Generally, observed positions are precessed to a common year and averaged whenever two or more measurements are within 45 arc sec of one another. The resulting number of apparent infrared positions exceeds 5000. The halfwidths of 45 arc sec for positional averaging is rather large in order to simplify the data processing logic.

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## 1. INTRODUCTION

The Equatorial Infrared Catalogue, Number 1 (EIC-1, pronounced ICE-ONE) lists positions for 896 sources detected at wavelength  $2.7\text{-}\mu\text{m}$  with U.S. Air Force satellite sensors within 10 deg of the celestial equator. EIC-1 together with planned updates will provide a systematic survey of sources with flux densities greater than  $4 \times 10^{-16} \text{ W cm}^{-2} \mu\text{m}^{-1}$  in this equatorial zone. The satellite data are processed to provide flux density to a root mean square (rms) precision of 14 percent and positional coordinates to a rms accuracy of 2 arc sec. Positions listed in EIC-1 are computed relative to those of the Astronomische Gesellschaft Katalog 3 (AGK3) (Ref. 1) and the Smithsonian Astrophysical Observatory (SAO) Star Catalogue (Ref. 2). These catalogues use equinox 1950.0 and the coordinate system of The Fourth Fundamental (FK4) Catalogue (Ref. 3).

The systematic positional errors of EIC-1 with respect to a sample of 658 reference stars (500 from the AGK3 and 158 from the SAO) are less than 1.0 arc sec.

## 2. GENERAL DESCRIPTION

EIC-1, the first in a series of 2.7- $\mu$ m catalogues, provides a list of infrared sources that is assembled with high confidence. Considerable effort has been expended to deal with the known problem of spurious sources in space infrared surveys. Confidence is achieved by multiple observations of each listed source and by careful computer processing of the satellite observational data. Every EIC-1 source has been observed on two or more days or on the same day at times at least 20 min apart. NASA-GSFC correlation of EIC sources with photographic plate images and multichannel photometry of selected sources with a ground-based infrared telescope will be addressed in a later publication. Selected results of the NASA work appear in References 4 and 5. EIC-1 parameters are given in Table 1.

The development of EIC-1 began with the processing of satellite data recorded in November 1976. The sky coverage at that time emphasized the +8-deg declination band. During the 14.2 hr recording interval, 1.3 hr on the 9th and 12.9 on the 10th, more than 2400 of some 3400 measurements were confined to one deg of declination between +8 and +9 deg.

Subsequent recordings still emphasize northern declinations, which means that the survey will be complete in these zones prior to the others. Table 2 shows by Greenwich date and declination zone the number of measurements processed to make EIC-1. Generally, observed positions are precessed to a common year and averaged whenever two or more measurements are within 45 arc sec of one another. The resulting number of apparent infrared positions exceeds 5000. The halfwidths of 45 arc sec for positional averaging is rather large in order to simplify the data processing logic. Large positional variances are investigated to see that close sources are not merged, but so far no sources within 100 arc sec of each other have been seen. Most of the apparent source positions have not been redetected and hence are omitted from EIC-1. Omitted sources either are spurious or require confirmation by further observation.



Table 1. EIC-1 Parameters

Wavelength	2.7- $\mu$ m
Sky Coverage	-10 to +10 deg Declination
Flux Range	4 to $13,489 \times 10^{-16} \text{ W cm}^{-2} \mu\text{m}^{-1}$
Precision (rms)	
Flux Density	14 percent
Position	2 arc sec
Observation Time	148 hr
Detector Responses	65,480
Representative Measurements <sup>(1)</sup>	45,617
Singles	19,278
Doubles	17,098
Triples	4,002
Rejects	5,239
Apparent Sources	5,477
EIC-1 Sources	896
Identified <sup>(2)</sup>	808
Others	88

(1) Up to three individual detector responses are combined to form representative measurements.

(2) EIC-1 sources identified with stars listed in previous visual and infrared catalogues.

Table 2. Satellite Observations by Date and Declination Zone

Year	1976	1976	1977	1977	1977	1977	1977	1978	Number of Measurements by Declination Zone
Day	9 Nov	10 Nov	18 Feb	19 Feb	21 Jul	22 Jul	23 Jul	16 Feb	
Observation Time (hr)	1.3	12.9	20.8	19.7	22.8	23.3	23.8	23.4	
Declination Epoch 1975.0									
Above +9°	9	2	132	397	541	854	998	585	3518
+6° to +9°	188	2616	4996	4001	2629	3907	2946	4145	25428
+3° to +6°	42	182	989	1177	1026	917	835	736	5904
0° to +3°	29	73	347	382	180	271	250	427	1959
-3° to 0°	5	32	240	215	379	213	279	572	1935
-6° to -3°	0	42	279	205	98	122	167	342	1255
-9° to -6°	10	233	892	426	263	289	832	1766	4711
Below -9°	0	2	84	120	3	11	15	672	907
Number of Measurements by Date	283	3182	7959	6923	5119	6584	6322	9245	45617

The lack of uniformity in sky coverage is easily seen in Table 3, which shows the count of sources by 3-deg wide declination zones in two flux density intervals. For comparison, the counts of 2.2- $\mu$ m sources are shown from the Two-Micron Sky Survey (generally abbreviated as TMSS) (Ref. 6). If the sky coverage were uniform, approximately equal numbers of EIC-1 sources would be found in the respective declination bands. Every real TMSS source within the declination range of the EIC survey should eventually be included in the EIC. Table 3 provides data on the percentage of TMSS sources (by declination band) that have been observed with the satellite sensors and that meet the criteria for inclusion in EIC-1. The deviations of these numbers from 100 percent (neglecting the small number of possibly spurious sources in the TMSS) constitute an indication of the lack of uniformity in sky coverage of EIC-1. An EIC-1 identification with a TMSS source requires positional coincidence within 180 arc sec; where such identifications are valid the EIC-1 position constitutes a preferred estimate that can be used for further ground-based observations and optical and radio source identification purposes. The number of EIC-1 sources with positions that match SAO catalogue and AGK3 positions to within 18 arc sec, the number that match AFGL (Ref. 7) positions to within 360 arc sec, and the number that match TMSS positions with 180 arc sec, are summarized in Tables 4a and 4b.

Table 4a concentrates on the +8-deg declination zone where EIC-1 is only 76 percent complete to the TMSS flux threshold, since just 60 of the 79 TMSS stars were matched. These 60 represent 44 percent of the EIC-1 stars in the +8-deg zone. The ragged sky coverage will become more and more uniform as additional satellite data are received and processed. Table 4b shows crosscorrelations and coordinate difference statistics for all EIC-1 star matches within 10 deg of the celestial equator. The number of EIC-1 sources that do not match those of any star in these four catalogues is 88. These deserve further study; preliminary observations by S. P. Maran, S. G. Kleinmann and R. Joyce show that some of them have interesting infrared spectra.

Table 3. EIC-1 Sources by Declination Zone and Flux Density Internal

Declination Epoch 1950.0	Flux Density 10-16 W cm <sup>-2</sup> μm <sup>-1</sup>		EIC-1 Count	TMSS Count	EIC -1 Coverage of TMSS (%)
	3 to 74	75 and More			
Above +9°	28	3	31	*	*
+6° to +9°	309	31	340	175	87
+3° to +6°	186	23	209	164	79
0° to +3°	67	15	82	155	40
-3° to 0°	33	37	70	161	37
-6° to -3°	42	17	59	166	29
-9° to -6°	66	33	99	175	43
Below -9°	4	2	6	*	*
Totals	735	161	896		

\* Not of interest in present context



Table 4a. Crosscorrelations for 137 EIC-1 Stars  
at Declination +8 deg

Reference Catalogue (Wavelength)	Reference Stars	Matches	Match Criteria (arc sec)
AGK3 (visual)	3284	89	18
SAO (visual)	2073	83	18
TMSS (2.2 $\mu\text{m}$ )	79	60	180
AFGL (4.2 $\mu\text{m}$ )	26	20	360

Table 4b. EIC-1 Crossreference and Coordinate Difference Statistics

Reference Catalogue	Declination Zone Epoch 1975.0	Reference Stars	EIC-1 Matches	Average Error* (arc sec)		Standard Deviation (arc sec)	
				$\Delta\alpha \cos \delta$	$\Delta\delta$	$\Delta\alpha \cos \delta$	$\Delta\delta$
AGK3	- 2° to +10°	38,892	500	-0.4	-0.2	1.1	1.4
SAO	-10° to +10°	38,070	615	-0.5	-0.2	1.3	1.4
TMSS	-10° to +10°	1,124	545**	-2.2	-0.8	24.8	19.4
AFGL	-10° to +10°	401	231**	8.8	7.7	83.9	76.2

\* Error = (EIC position) - (reference catalogue position)

$\alpha$  = right ascension

$\delta$  = declination

\*\* Occurrences of two EIC-1 stars matching single TMSS or AFGL stars are listed below.

EIC-1	TMSS	AFGL
127 & 128	+10119	-
153 & 155	-	1010
458 & 462	-	1809
478 & 479	-	1825
633 & 635	+10353	-
659 & 660	-10424	2164
678 & 679	-	2195



Once a position is matched, additional data from the appropriate reference catalogue matched are appended to the EIC data record. Of particular interest in the associated information are the stellar spectral type and proper motion. The spectral type is obtained from the Henry Draper (HD) Catalogue (Ref. 8) using the HD-SAO-DM Cross Index (Ref. 9) whenever an EIC star is identified with an SAO star in the Cross Index. If not found there, the spectral type is taken from the AGK3, or as a last choice, is from the SAO without use of the Cross Index. Table 5 displays the count of sources by spectral type in two flux density intervals. As expected for the 2.7- $\mu$ m EIC wavelength, nearly all the sources are associated with type K and M stars.

Proper motion is obtained from the AGK3 as first choice and the SAO as last choice. The proper motion is not significant for most of the star observed. However, it cannot be ignored completely. The current technique of precessing all positions to a common equinox and then averaging the coordinates may be modified in the future to account for proper motion as the span of time for EIC recordings grows, since several of the stars observed do move more than 1 arc sec per year. The proper motion for stars is always used to determine infrared sensor alignment (discussed below).

Galactic coordinates are computed and listed for each source position. Table 6 shows EIC-1 flux density distribution by galactic latitude zone. As expected for real sources in the Galaxy, their number decreases as the distance from the galactic equator increases.

## 2.1 EIC PROCESSING STEPS

The EIC-1 listing is produced in three distinct processing steps. The first step is repeated for each digital tape of satellite measurements. After all the tapes in a continuous series are processed through step 1 or the end of an orbital cycle of observations is reached, whichever occurs first, step 2 is performed for the interval just defined. The accumulated outputs from all of the step 2 processing constitute the input to step 3. In step 3, statistics are computed, sources are screened, and catalogue numbers are assigned.

Table 5. Identified EIC-1 Sources by Spectral Type and Flux Density Interval

Flux Density $10^{-16} \text{ W cm}^{-2} \mu\text{m}^{-1}$	Spectral Type										Type Not Listed	Totals
	O	B	A	F	G	K	M	R	N	S		
75 and above	0	1	0	1	2	28	97	0	5	1	26	161
3 to 74	0	1	6	8	26	300	177	1	2	0	214	735
Totals	0	2	6	9	28	328	274	1	7	1	240	896

Table 6. EIC-1 Flux Density by Galactic Latitude Zone

Galactic Latitude	Flux Density $10^{-16} \text{ W cm}^{-2} \mu\text{m}^{-1}$		
	3 to 74	75 and More	Number of Stars by Galactic Latitude
+50° to +75°	116	24	140
+25° to +50°	160	19	179
0° to +25°	218	38	256
-25° to 0°	155	39	194
-50° to -25°	52	19	71
-75° to -50°	34	22	56
Number of Stars by Flux Interval	735	161	896

### 2.1.1 Step 1 of 3

The survey is being carried out using infrared and visual wavelength sensors aboard U. S. Air Force satellites. Data processing of a satellite's visual wavelength sensor determines the orientation of that sensor as a function of time where the true positions of the visual stars observed are obtained from the SAO star catalogue (see Figure 1). Approximately 1000 of the brighter SAO stars distributed throughout the sky provide the reference positions to estimate the visual sensor orientation. Digital tapes supply infrared sensor data, visual sensor orientation angles, and satellite location. These input tapes are processed chronologically until the end of an observation interval or a satellite orbital cycle is completed. This processing, referred to as step 1, removes sensor design features, detects apparent celestial sources, and determines the 1975.0 position for each detected source.

The satellite's infrared sensor is a linear array of detectors staggered in position to provide overlapping coverage as the sensor scans across the sky. This configuration produces multiple detections that must be combined to form representative measurements as adjacent detectors may respond to only a fraction of a source image. A representative measurement is computed from up to three single detector responses that are closely spaced in time and position. Representative time is the time of the maximum flux measurement, representative flux density is the maximum flux measurement, and representative position is computed as a weighted average using flux density weighting and the midpoints of responding detectors. Of the 45,617 representative measurements available for EIC-1, only 29,285 are associated with sources listed in EIC-1.

An apparent celestial source is detected as follows. Detector responses collected over a span of several minutes of sky observation are processed as a group where each response is checked for neighbors in position and time. An apparent celestial source detection is achieved when three responses are found within a 40 by 40 arc sec sky area and the time between the first and last of these responses is no more than 32 sec. All responses in the group being processed that fall within the sky area of the detection are then combined as appropriate to form representative measure-

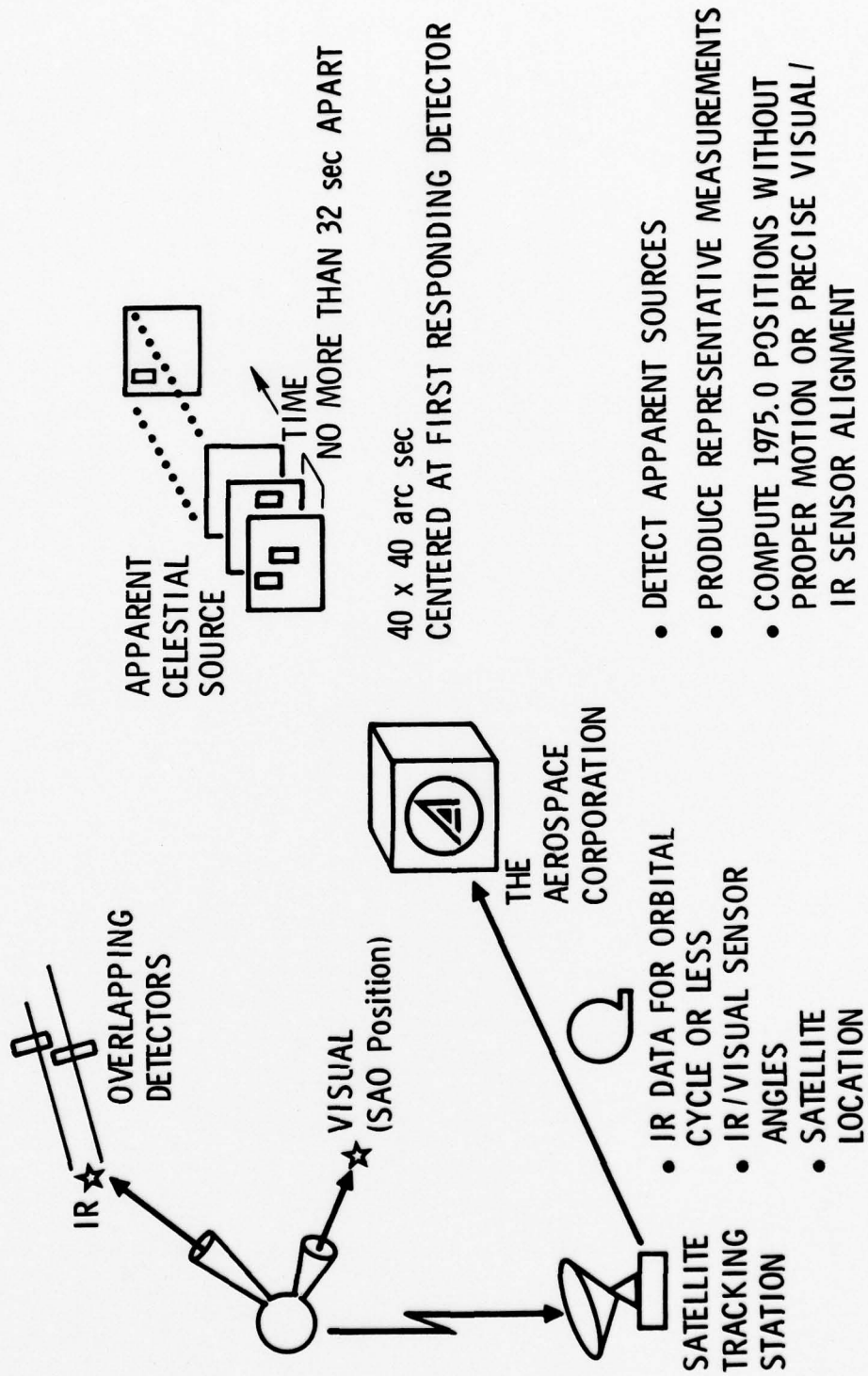


Figure 1. EIC Processing - Step 1 of 3



ments. As many as three responses can be combined to form a single representative measurement, however, most measurements are computed from just one or two responses. The 29,285 representative measurements associated with EIC-1 sources resulted from 47,868 detector responses: 12,404 singles, 13,595 doubles, and only 2758 triples.

Observed positions are transformed from sensor coordinates to celestial coordinates using an approximate transformation between the visual and infrared reference systems. This approximation is removed in step 2.

Correction for annual aberration, nutation, and precession from the day of observation to the nearest year (e.g., to 1977.0) is made using Independent Day Numbers as listed in the American Ephemeris and Nautical Almanac for the appropriate year and day. A correction for precession from the nearest year to 1975.0 coordinates is then made using the equations and constants of The Explanatory Supplement to the Astronomical Ephemeris and American Ephemeris and Nautical Almanac. These same equations and constants are used to precess reference star positions from 1950.0 to 1975.0 for sensor alignment estimation in step 2. Representative measurements produced by successive executions of step 1 processing are merged, then ordered by right ascension in preparation for step 2.

#### 2.1.2 Step 2 of 3

Step 2 processing (see Figure 2) corrects for two different kinds of positional errors. The first of these errors and smaller of the two is the correction for aberration due to satellite orbital velocity ("orbital aberration"). It is a function of the satellite's position and velocity with respect to the center of the earth. More important is the correction for sensor alignment, which is required due to variations in the satellite's temperature. Temperature variations cause a slow change in the optical alignment of one sensor with respect to another. The alignment drift is estimated by determining values for two angles defining the infrared sensor positional deviation from a satellite reference frame whose orientation in space is known by way of the visual star sightings.

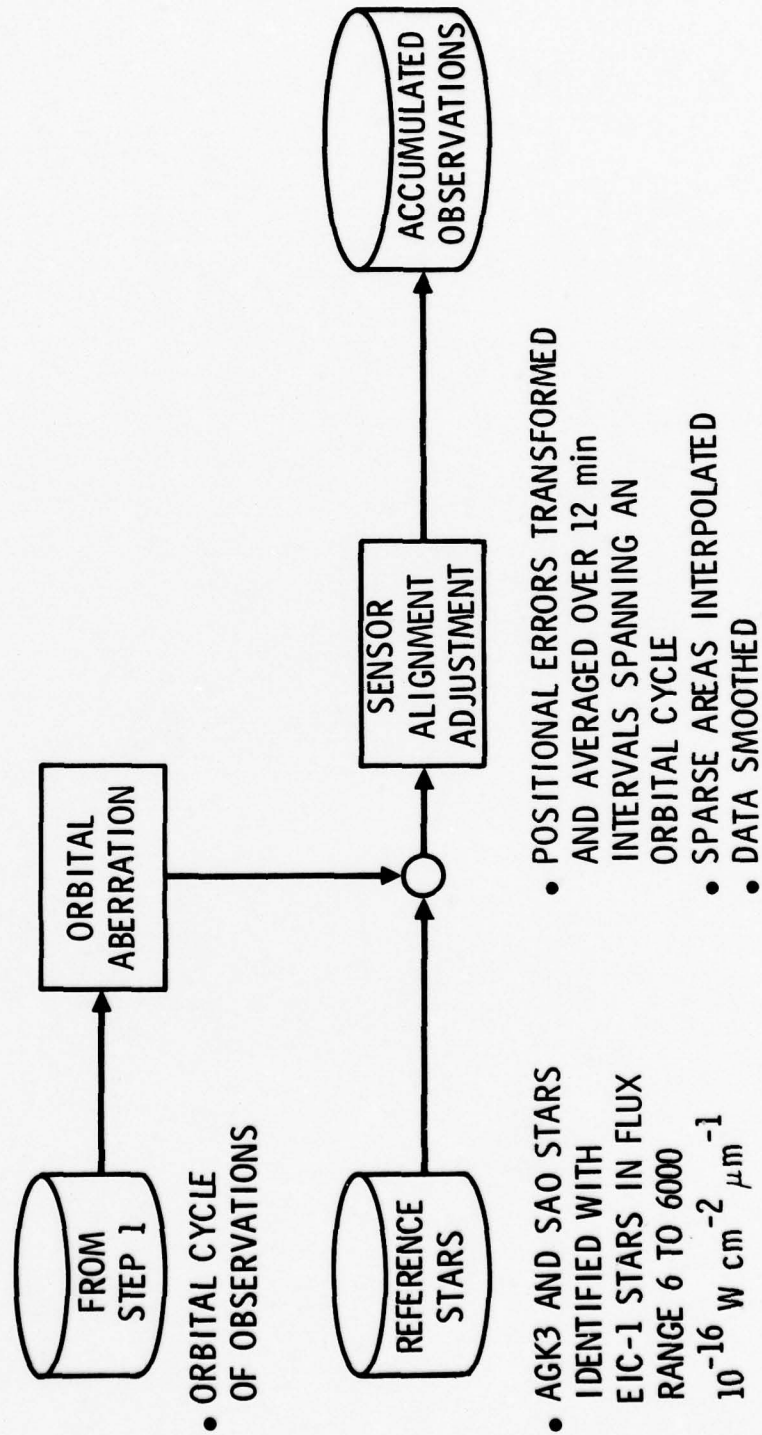


Figure 2. EIC Processing - Step 2 of 3



A typical plot of infrared sensor angular deviation from its satellite reference frame over a complete orbital cycle is given in Figure 3. Corrections to these angles are estimated for each orbit since changes greater than 1 arc sec can occur. These angles and the corrections are very small so that no significant loss of precision is noticed when small angle approximations are used in the transformation of errors in right ascension and declination to those in the satellite reference frame, or the use of each angle in radians to represent its sine and a value of unity for its cosine. These last approximations are used in the equation seen in Figure 3.

The selection of reference stars for this processing was done iteratively. Any EIC star with multiple observations is used if it is found in either the AGK3 or SAO catalogue and it is not too bright or too faint (see below). To initialize the process, SAO stars of spectral type M in the EIC declination range were used. Bright stars cause extraneous sensor responses and faint stars are too easily associated by chance with thermally induced noise fluctuations in the infrared sensors. The growing set of reference stars currently is composed of 615 stars in the flux range of 6 to  $6000 \times 10^{-16} \text{ W cm}^{-2} \mu\text{m}^{-1}$ , 470 AGK3 stars and 145 SAO stars (434 of the AGK3 stars are also SAO stars). When a star is found in both catalogues, AGK3 positional coordinates are used. EIC-1 sources with fluxes outside the above range are not suitable for use as reference stars.

Observed positional errors are averaged in 12-min intervals spanning an orbital cycle and then smoothed using a five-point moving average before application to correct the observed positions. However, any interval with fewer than five measurements is treated as if no measurements were made. Intervals with no measurements are supplied values using linear interpolation between surrounding intervals with sufficient measurements.

It should be noted that proper motion must be accounted for in this processing step because 184 of the reference stars would have positional errors greater than one sec of arc if it were ignored and, consequently, the sensor alignment correction would be degraded. Proper motion is added to each

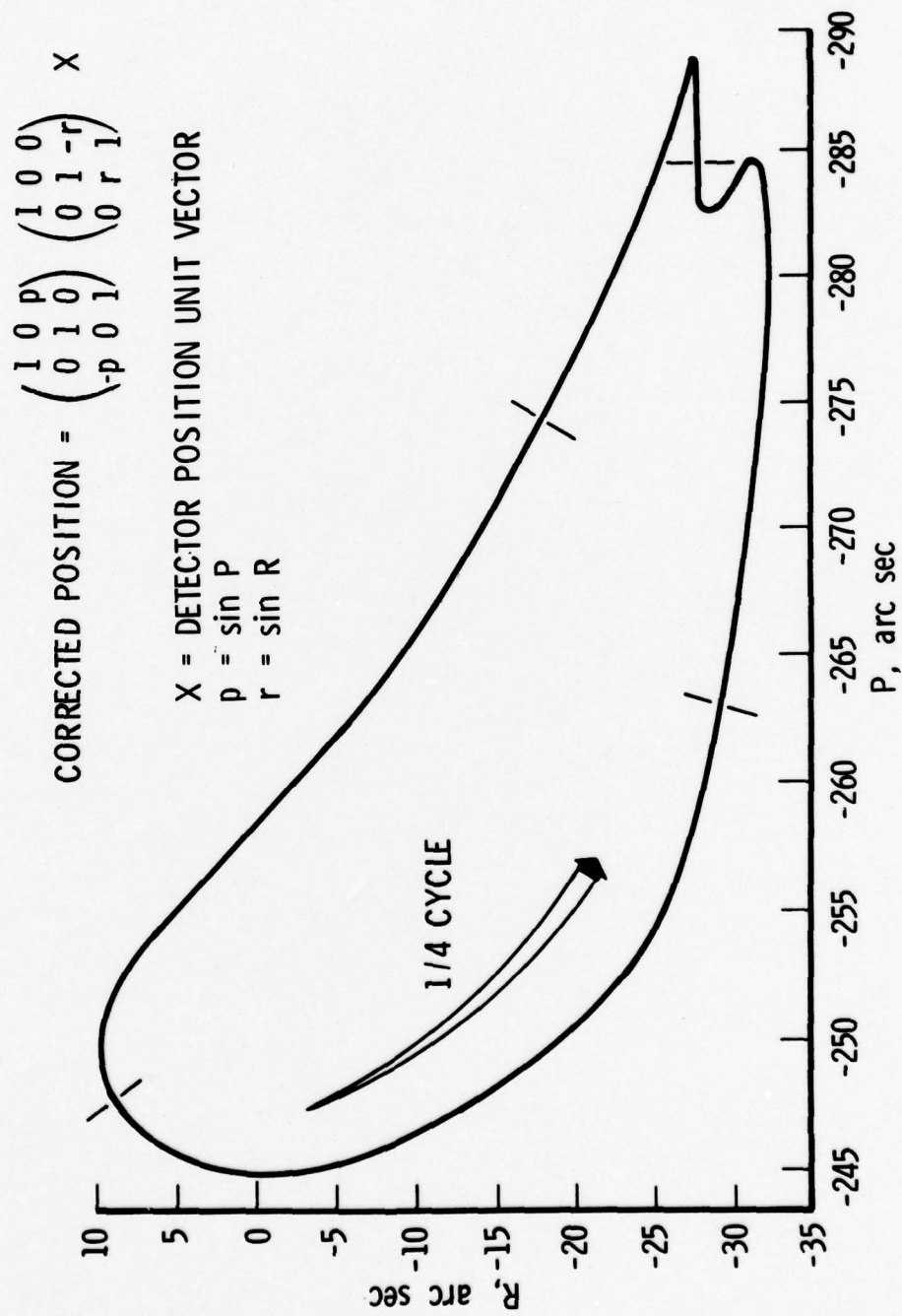


Figure 3. Typical Alignment Angular Variation

SAO star from 1950.0 to the date of the satellite observation and to each AGK3 star from its listed date of observation to the date of satellite observation. Precession to epoch 1975.0 has already been accounted for at this point in the processing. Step 2 processing outputs are accumulated to form the input to step 3.

#### 2.1.3 Step 3 of 3

Observations input to step 3 are ordered to facilitate the computation of statistics. The observations are ordered by right ascension first, then reordered locally by declination whenever two or more stars have observations interlaced with respect to right ascension alone. The ordered observations are then processed serially to determine various statistics: average position and flux, standard deviations, and flux summaries.

Next, high confidence sources are screened (see Figure 4). Stars seen on two or more days or twice on the same day at times 20 min or more apart are considered for further processing. A measurement not associated with a multiply observed source is either marked as bad or not marked at all, but held for subsequent processing together with future observations. Bad data must be recognized and flagged. Some satellites have two linear arrays of detectors with overlapping sensitivity ranges and when a star is seen that exceeds either sensitivity range, bad data are produced. A few stars exceed the limits of both arrays. Bright stars produce a fringe of low-level spurious detections that must be recognized and eliminated. Each flux density measurement with a value less than 60 percent of the average flux observed for a source on a given date, or less than 20 percent of the overall average flux, is assumed to be associated with this low-level fringe or other extraneous responses. The average flux for each observational interval is computed sequentially during this processing. This logic eliminated nearly 10 percent of the representative measurements. The moon and Venus were observed, but neither of them is found at the same positions in the sky at times 20 min or more apart in the satellite data, nor are they of interest in the present context, so they do not

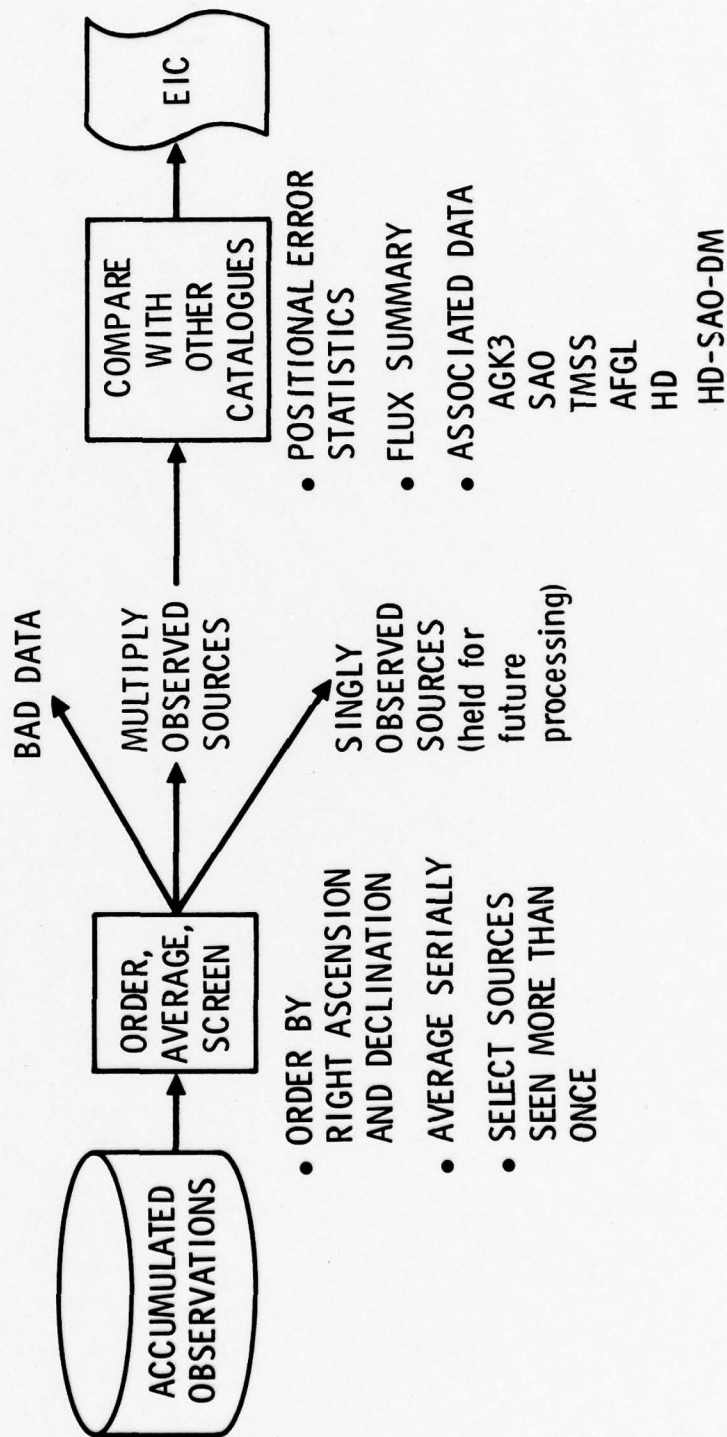


Figure 4. EIC Processing - Step 3 of 3



appear in EIC-1. Finally, comparisons are made to star positions listed in other catalogues and the EIC-1 star numbers are assigned. Star positions are compared in 1975.0 coordinates including a correction for proper motion whenever the EIC-1 star has been identified with an AGK3 or SAO star. Proper motion is not used in the calculation of 1950.0 positions listed for the stars in EIC-1. Catalogue star numbers are assigned after ordering the stars by right ascension in 1950.0 coordinates.

### 3. SUMMARY

The completeness of this survey to a given flux density level is not known. Although the satellite sensors were known to be operating while pointing at the sky and a fundamental threshold is known for each sensor, insufficient information is provided in the recorded data received for EIC processing to explain why certain expected measurements are not present. Complex satellite and ground station processing algorithms operate on the sensor data prior to it being recorded. Sensor data is lost to the EIC processing whenever adaptive threshold logic raises thresholds while controlling the data rate and also when the ground processing is too busy to record sensor pointing data. About once every 30 min, a 25-sec block of pointing data is found to be missing on the data tapes.

In EIC-1 a measure of the completeness to the threshold level of the TMSS was made by comparing positional coordinates. For EIC-2 an additional measure will be added. The sky within 10 deg of the celestial equator will be divided into 1-deg squares and the minimum recorded flux level for each square will be displayed. EIC-2 will also include the results of processing satellite data recorded back in December of 1975 as well as some recorded in March and June of 1978, all in addition to the reprocessing of EIC-1 data. The experience gained in the production of EIC-1 will be used to adjust parameter values in the EIC star detection algorithms in an effort to minimize data loss. Some stars detected during the very early stages of EIC development are no longer detected yet they have been confirmed as real by ground-based telescope observation.

## REFERENCES

1. "Astronomische Gesellschaft Katalog 3," Astronomische Rechen-Institut, AGK3, A. R. I. Heidelberg Tape (from Hamburg 1975 version).
2. Smithsonian Astrophysical Observatory (Staff of), "Star Catalog: Positions and proper motions of 258,997 stars for the epoch and equinox of 1950.0." Publication of the Smithsonian Institute of Washington, D.C. No. 4562, 1966.
3. W. Fricke, A. Kopff, et al., "Fourth Fundamental Catalogue (FK4)" Veroff. des Astron. Rechen-Instituts Heidelberg, No. 10, 1963.
4. S. P. Maran, T. F. Heinsheimer, L. H. Sweeney, and T. A. Nagy, Bulletin American Astron. Soc., 9, 372, 1977
5. L. H. Sweeney, T. F. Heinsheimer, F. F. Yates, S. P. Maran, J. R. Lesh, and T. A. Nagy, Proceedings S.P.I.E., 124, 125, 1977.
6. G. Neugebauer and R. B. Leighton, Two-Micron Sky Survey, NASA SP-3047, 1969.
7. S. D. Price and R. G. Walker, The AFGL Four Color Infrared Sky Survey: Catalog of Observations at 4.2, 11.0, 19.8, and 27.4  $\mu$ m, AFGL-TR-76-0208, Air Force Geophysical Laboratory, 1976.
8. A. J. Cannon and E. C. Pickering, "Henry Draper Catalogue and Extension," Harvard College Annals Volumes 90 Through 100 inclusive, 1924.
9. T. A. Nagy and J. M. Mead, HD-SAO-DM Cross Index, NASA Technical Memorandum 79564 (1978).



## COLUMN HEADINGS FOR EIC-1

EIC	<u>Star Number</u> EIC-1 star numbers are assigned in right ascension order for 1950.0 coordinates.
RA, DEC	<u>Coordinates</u> Measured right ascensions and declinations of the EIC-1 sources, corrected as described in the text and precessed to equinox 1950.0. Right ascension is listed in hours, minutes, seconds of time and declination is listed in degrees, minutes, seconds of arc.
FL	<u>Flux Density</u> The flux density is the average of the 2.7- $\mu\text{m}$ representative measurements in units of $10^{-16} \text{W cm}^{-2} \mu\text{m}^{-1}$ .
SDRA, SDDC, SDFL	<u>Standard Deviations</u> The sample standard deviations are listed for RA, DC, and FL. The right ascension standard deviation is listed in seconds of time; the declination standard deviation, in seconds of arc; and the flux density standard deviation, in units of $10^{-16} \text{W cm}^{-2} \mu\text{m}^{-1}$ .
OBS	<u>Number of Observations</u> The number of observations used in computing the tabulated values of right ascension, declination, and flux density.
1234	<u>Observation Interval and Flux</u> Each column corresponds to an observation interval given below. A "." means no observations for that interval. Other symbols represent the infrared flux in 10 percent steps of the average value (given under the heading FL). For example, "A," the tenth symbol, means $(1.0 \text{ FL}) \pm 5\%$ , "5" means $(0.5 \text{ FL}) \pm 5\%$ , "P," the 25th symbol, means $(2.5 \text{ FL}) \pm 5\%$ , and so forth. For reference,

	0	1	2	3	4	5	6	7	8	9
00		1	2	3	4	5	6	7	8	9
10	A	B	C	D	E	F	G	H	I	J
20	K	L	M	N	O	P	Q	R	S	T
30	U	V	W	X	Y	Z	*			

The "\*" means greater than  $(3.5 \text{ FL}) \pm 5\%$ .

Observation Interval	Start Date	Stop Date	Observation Time (hr)
1	9 Nov 1976	10 Nov 1976	14.2
2	18 Feb 1977	19 Feb 1977	40.5
3	21 Jul 1977	23 Jul 1977	69.9
4	16 Feb 1978	16 Feb 1978	23.4

EAG,  
ESA,  
ETM,  
EAF

The distance between EIC coordinates and AGK3 coordinates is listed under the heading EAG. Similarly, SAO, TMSS, and AFGL coordinate differences are listed under the headings ESA, EIR, and EAF, respectively. The distance is the great circle arc distance, given in arc sec, EIC minus the other position.

TYPE

The value for spectral type is obtained as described in the text from HD, AGK3, or SAO.

L, B

#### Galactic Coordinates

The galactic longitude (L) and the galactic latitude (B) in degrees are computed based on the following definitions for right ascension and declination of the galactic north pole ( $\alpha_G$ ,  $\delta_G$ ) and the galactic longitude of the celestial north pole ( $L_G$ ) for a given year (YEAR).

$$\alpha_G = 12^{\text{h}}49^{\text{m}} + 8^{\text{h}} 13 \times 10^{-4} (\text{YEAR}-1950)$$

$$\delta_G = 27^{\circ} 4' - 5^{\circ} 44' \times 10^{-3} (\text{YEAR}-1950)$$

$$L_G = 123^{\circ} - 1^{\circ} 33' \times 10^{-3} (\text{YEAR}-1950)$$

SAO, Associated star numbers from the SAO, AGK3, TMSS, AFGL, or HD.  
AGK3,  
TMSS,  
AFGL,  
HD

DM Durchmusterung indication, zone, and number. Indication is abbreviated as BD for Bonner, CD for Cordoba, and CP for Cape Photographic. DM data are obtained from the HD-SAO-DM Cross Index or the AGK3, in that order of preference.

Table 7.

EIC-1



EIC	R.A.1950	SDRA	DEC.1950	SDOC	FL	SOFL	OBS	1234	L	B	TYPE	ACK3	EAG	SAO	ESA	THSS	ETM	AFGL	ENF	DM	HD	
1	00 04 28.36	.27	+05 00 34.2	4.0	12	2	13	BA	103.0	-55.9	MA	+0500036	1.4	109013	1.2					ED+04	5089	223
2	00 05 44.08	.28	+07 06 07.9	3.4	11	1	10	AB	91.8	-69.0	K0		122804	1.2						ED+09	5	350
3	00 11 54.18	.21	-03 03 29.8	3.1	173	27	66	BAA	96.9	-68.8	MA		128855	1.7	-10005	10	37	30	ED+08	26	1014	
4	00 16 52.68	.24	-09 06 03.6	3.7	128	18	139	AA9B	99.0	-70.2	K0		128664	3	-10006	33	48	44	ED+09	48	1822	
5	00 17 30.64	.30	+06 00 55.4	4.2	15	2	17	B9	109.0	-55.7	K0	+0600027	1.4	109145	5				ED+05	34	1795	
6	00 17 35.54	.11	+02 45 19.4	3.7	21	2	6	A	107.7	-58.9	MA	+0200034	2.5	109146	2.9	00007	22		ED+02	37	1586	
7	00 18 01.17	.29	+07 54 47.5	3.7	33	4	56	9AA	109.9	-53.9	K0	+0700035	2.4	109152	2.0	+10003	18		ED+07	36	1635	
8	00 23 07.19	.27	+07 24 51.8	4.1	9	1	25	9A	111.9	-54.6	K0	+0700047	8	109155	3			ED+06	43	2140		
9	00 24 33.38	.24	-06 52 51.2	3.2	185	29	47	AAA	106.1	-68.7	MA		128767	1.7	-10009	22	66	164	ED+07	57	2326	
10	00 34 55.89	.11	+02 51 37.0	4.0	16	1	6	B9	116.1	-59.6	K0	+0200056	1.5	109315	1.6			ED+02	80	3457		
11	00 42 20.73	.23	+02 55 39.0	4.0	27	3	6	B9	119.7	-59.6	MA	+0200074	10	109427	8	00011	17		ED+02	97	4245	
12	00 45 41.76	.23	+07 01 39.0	4.4	14	1	21	9A	121.6	-55.6	K0	+0700095	8	109470	8			ED+06	105	4827		
13	00 46 05.18	.27	+07 19 45.7	3.7	126	23	301	QAS3	121.7	-55.3	K5		109474	3	+10007	13	111	87	ED+06	107	4756	
14	00 50 26.97	.21	-01 24 55.8	2.7	114	13	31	A5A	123.8	-64.0	K0	-0100073	12	109509	00013	14	123	43	ED+01	114	5112	
15	00 50 57.18	.27	+06 12 49.6	4.1	61	7	54	C9A	126.7	-56.3	MA	+0600097	1.7	109521	1.7	+10008	26		ED+05	131	5820	
16	00 50 20.46	.34	+06 37 17.0	3.7	44	4	118	AAA	127.9	-54.9	K0		109627	3	+10009	23		ED+07	153	6186		
17	01 01 16.94	.37	+05 23 17.1	4.9	29	4	24	DA	129.1	-57.1	K2	+050127	1.6	109656	1.8	+10010	22		ED+04	172	6356	
18	01 11 34.77	.23	+07 02 52.4	4.8	7	2	7	AAA	132.8	-55.1	MA	+070136	3.7	109656	1.8			ED+06	179	6819		
19	01 17 03.39	.31	+05 53 57.8	5.0	27	3	22	BAA	135.6	-56.0	MA	+050149	1.0	109810	1.0	+10015	23		ED+05	168	8019	
20	01 21 31.07	.19	-03 26 32.2	4.7	104	16	27	A8B	146.6	-69.5	K0		129274	1.0	-10021	15	210	57	ED+09	244	8512	
21	01 25 45.62	.27	+07 42 09.0	4.1	9	1	11	AA	138.5	-53.8	K0	+070162	1.2	109907	1.7			ED+07	213	8519		
22	01 27 34.14	.27	+05 53 09.9	4.4	64	8	41	E5A	140.1	-55.4	K2	+050168	1.0	109926	4.7	+10017	13	224	55	ED+05	194	9139
23	01 28 03.04	.39	+02 37 25.6	5.3	40	11	11	C7	141.9	-59.5	MD	+020158	3.6	109934	4.0	00019	2	226	120	ED+02	222	9203
24	01 30 40.72	.44	+07 57 09.6	3.4	11	1	43	AAA	140.4	-53.2	K0	+070171	3	109954	3			ED+07	229	9456		
25	01 34 05.99	.34	+07 34 36.1	3.5	59	7	104	BAB	142.0	-53.4	MA	+070181	3	110011	3	+10019	12	236	29	ED+07	240	9869
26	01 38 49.48	.34	+05 14 04.9	4.1	89	16	37	A5A	145.1	-55.2	K0		110045	1.7	+10020	21	243	69	ED+04	293	10180	
27	01 42 00.50	.25	+02 58 11.0	3.9	18	2	8	B9	147.9	-57.1	K0	+020181	2.3	110104	2.2	00025	16		ED+02	299	10898	
28	01 45 50.49	.16	+03 26 21.0	2.9	10	1	5	BA	149.2	-56.3	G5	+030215	1.5	110136	1.2			ED+02	270	11037		
29	01 51 59.93	.28	+04 23 00.8	3.9	40	5	24	B9	150.9	-54.7	K5	+060214	1.4	110268	1.0	00028	6		ED+06	314	12033	
30	01 57 34.89	.33	+06 40 34.6	4.5	16	3	20	EA	151.5	-52.1	MB		129524	1.5	-10030	12	297	88	ED+09	320	12892	
31	01 57 57.88	.24	-03 45 55.0	2.6	369	50	87	A3A	167.4	-65.3	MB	+070224	7	110286		+10025	18	292	253	ED+06	319	
32	02 00 00.26	.25	+07 26 11.0	3.3	186	27	279	BASB	151.8	-51.2	MB	+080229	1.7	110337	2.9	+10027	23		ED+07	354	12872	
33	02 03 33.35	.43	+08 00 35.6	2.9	67	7	115	BA	152.7	-50.3	MB	+050229	3.2	110355	2.5			ED+05	265	13042		
34	02 05 09.57	.27	+05 44 51.0	4.0	14	2	11	A	154.9	-52.1	K5		129785	2.1				ED+09	429	13763		
35	02 11 25.36	.23	-09 17 51.3	3.6	16	1	29	AA	174.0	-63.4	K0	+060241	1.7	110458	2.1			ED+06	344	14744		
36	02 15 38.37	.38	+05 28 22.8	4.0	11	1	13	EA	157.9	-50.4	MA		129825	1.3	00030	7	318	46	ED+03	353	14756	
37	02 16 49.02	.17	-03 12 19.8	2.3	3301	1399	34	05E	167.8	-53.0	MD	+080203	1.4	110455	1.4	00031	22	321	98	ED+00	355	14852
38	02 19 22.72	.22	+00 10 03.7	3.0	154	17	36	A5B	164.9	-54.9	MA	+030271	1.4	110593	1.8			ED+07	373			
39	02 26 19.64	.31	+09 09 24.1	3.1	8	1	24	7B	160.0	-47.3	K0	+070278	2.6	110625	2.9			ED+06	383	16160		
40	02 32 24.91	.24	+07 15 10.8	4.3	10	0	11	A	162.6	-47.3	K0	+060271	1.0	110636	1.0			ED+07	402	16247		
41	02 33 23.11	.34	+06 39 32.7	3.6	11	1	8	EA	163.4	-47.6	K0		130004	3	-10037	20	354	79	ED+08	489	16212	
42	02 33 32.13	.28	-03 02 54.2	3.6	100	16	37	B8B	179.9	-58.6	K5	+070281	1.0	110640				ED+07	402	16247		
43	02 33 55.74	.33	+07 30 46.4	3.7	11	1	16	A	162.8	-46.8	K0		130157		-10041	32	392	12	ED+03	536	17855	
44	02 49 47.01	.20	-08 29 17.0	3.1	154	30	51	AB	185.2	-55.8	MB	+040310	7	110855	3	00036	1	405	48	ED+09	553	18322
45	02 53 59.96	.25	-09 05 51.3	3.4	54	13	41	AAB	187.2	-55.3	MA		130197	3					ED+03	410	18345	
46	02 54 27.14	.27	+04 18 01.4	4.4	109	18	40	A9B	171.5	-46.2	MA		110920	1.0	00038	3	419	45	ED+03	419	18345	
47	02 59 39.64	.20	+03 53 37.6	2.5	1324	184	71	AAA	173.3	-51.6	MA		130284	1.5	-10045	61	439	29	ED+05	605	19349	
48	03 04 04.96	.26	-06 16 50.5	3.0	178	27	46	AAA	185.9	-45.6	MA	+060329	2.4	111002	2.5			ED+07	478	19525		
49	03 05 57.71	.57	+08 16 50.1	3.3	9	0	7	A	170.8	-41.3	G5	+060334	1.1	111044	1.8	+10041	9	461	114	ED+06	496	19826
50	03 09 46.74	.39	+04 28 20.0	4.0	27	3	35	BA	173.4	-42.0	G5	+010335	5.7			00046	23	494	97	ED+01	569	
51	03 12 50.54	.19	+01 30 03.6	6.2	42	5	7	B9	179.0	-44.9												
52	03 28 09.59	.19	-02 06 27.7	4.3	43	3	6	EA	165.4	-44.3	G5	+060372	1.0	111340	1.0			ED+04	571	22878		
53	03 37 49.36	.39	+04 57 54.0	3.8	11	2	8	B9	181.1	-33.0	MB	+060391	7	111407	3			ED+06	583	23526		
54	03 43 29.03	.19	+06 38 55.3	3.1	12	2	6	B9	180.7	-35.8	K0		130743	1.0	-10052	61	525	71	ED+07	685	23937	
55	03 46 20.68	.21	-07 10 00.4	3.1	189	19	36	ABA	195.7	-43.4	MB											

ETC	R.A.1950	SORA	DEC.1950	SODL	FL	SOFL	OBS	1234	L	B	TYPE	AGK3	EAG	SAO	ESA	THSS	ETM	AFGL	ENF	DM....	MD	
56	03 48 54.66	-18	-01 31 12.3	2.5	130	18	36	.A9B	189.9	-39.0	MC	-010358	1.2	130773	1.4	00050	17			BD-01	546	24244
57	04 01 24.38	-18	-02 24 04.3	5.4	45	4	16	.AA	188.2	-35.0	MC					00052	27			BD-08	797	26258
58	04 06 30.31	-30	-08 13 56.2	4.4	60	6	10	.AA	200.3	-39.6	MC									BD-08	797	26258
59	04 08 36.33	-27	-08 09 33.8	3.3	18	2	33	.AA	184.0	-30.0	MC	+080436	.7	111647	3.0	-10081	21	548	56	BD-08	797	26258
60	04 13 00.02	-40	-06 06 21.2	4.9	16	2	26	.AA	186.7	-30.4	MC	+060439	.3	111700	.7					BD-05	616	
61	04 13 24.24	-28	-07 48 21.2	3.4	9	1	11	.AAA	185.2	-29.3	MC											
62	04 18 01.15	-31	-06 00 43.5	4.5	10	1	7	.A	187.6	-29.5	MC	+060448	2.2	111756	2.0					BD-05	631	27497
63	04 26 59.61	-23	-05 03 21.2	4.8	59	3	32	.BA	190.0	-28.2	MC	+050473	.3	111851		+10062	11			BD-04	696	28487
64	04 29 19.03	-27	-08 08 54.2	4.7	43	3	5	.A	195.3	-30.6	K0	-000492	5.0	131270	5.0	00061	45			BD-00	713	28749
65	04 31 46.84	-28	-08 20 04.5	3.0	146	23	102	.A9A	204.1	-34.2	MA					-10070	30	598	15	BD-08	887	29064
66	04 31 48.04	-04	-06 56 28.3	1.1	23	4	5	.A	202.6	-33.5	K2					-10069	21	604	188	BD-07	841	29063
67	04 33 44.61	-20	-05 22 22.0	2.3	36	0	6	.A	201.3	-32.3						-10072	40					
68	04 35 31.63	-38	-08 14 12.8	3.6	90	18	138	.A9B	188.4	-24.7	MA	+060483	.7	111950	.8	+10066	43	603	40	BD-06	730	29480
69	04 36 04.91	-27	-06 43 19.2	4.8	28	4	28	.BA	189.9	-25.4	MA					+10067	10					
70	04 39 04.93	-31	-06 47 00.6	3.6	36	7	39	.D9	190.4	-24.7						+10068	14	619	45			
71	04 47 09.30	-32	-06 52 31.8	4.4	41	5	57	.BA	191.5	-23.1	F8					-10071	31			BD-06	762	30652
72	04 48 19.96	-30	-07 36 50.4	4.3	6	1	9	.A	191.0	-22.4	M0	+070527	2.3	112135	1.8					BD-07	737	
73	04 49 37.48	-52	-08 26 04.2	1.7	10	2	11	.B	190.4	-21.7	MA	+020500		112179		00064	41	647	107	BD-02	800	31139
74	04 50 46.15	-19	-02 25 36.8	4.5	121	19	46	.A9B	196.1	-24.7	K0	+070537	2.1	112203	1.7	+10074	16			BD-07	755	31296
75	04 52 05.30	-32	-07 41 56.0	3.9	27	3	34	.BA	191.4	-21.6	K0									BD-07	812	33066
76	04 55 57.21	-26	-01 38 24.3	3.6	96	21	10	.AC	197.6	-24.0	K0	+010513	4.6	112281	4.3	00065	12	659	79	BD-01	872	31767
77	04 58 29.54	-38	-05 15 59.0	3.9	12	1	7	.A	194.6	-21.6												
78	04 59 03.42	-37	-06 35 36.2	2.1	24	2	15	.CA	193.5	-20.7	NB	+010526	.3	112406	.3	00066	24	683	72	BD-00	939	32736
79	05 02 49.64	-20	-01 06 37.4	3.1	507	79	48	.ACA	199.0	-22.8	M3	+030494				00067	35			BD-00	944	
80	05 04 01.75	-15	-03 28 57.3	3.1	60	8	7	.B9	199.8	-22.9	K0	+070574	2.9	112450	1.1					BD-07	812	33066
81	05 05 22.14	-47	-07 50 03.4	2.7	7	2	9	.7E	193.2	-18.8	K0	+080567	.7							BD-08	882	
82	05 09 00.68	-48	-08 32 55.6	3.7	8	1	17	.BA	193.1	-17.6	K0	+060548	1.4	112512	1.4	00068	16	706	153	BD-02	888	33662
83	05 09 26.18	-22	-06 48 00.0	4.0	12	1	10	.A	194.7	-18.5	K0	+020548	3.2	112528	3.0	00068	16	706	153	BD-02	888	33856
84	05 10 40.22	-30	-02 48 10.0	4.3	57	0	6	.AA	198.5	-20.3	K0	-000586	1.4	131905	1.1	00070	18	708	88	BD-00	830	34055
85	05 12 03.67	-36	-00 37 09.1	2.6	167	13	39	.A9B	201.9	-21.7	MB	-000596	1.0	112556	1.0	+10079	7			BD-04	877	34043
86	05 12 04.41	-27	-05 06 00.7	4.8	31	3	13	.CA	196.6	-18.8	K0	+050586	1.0	112556	1.0	+10079	7			BD-04	877	34043
87	05 12 07.66	-22	-08 15 29.5	2.5	248	31	89	.A9A	209.2	-25.2	B8P									BD-08	1063	34085
88	05 12 29.61	-27	-05 30 39.1	3.8	11	1	11	.A	195.4	-18.0	K5	-010560	1.9	132176	1.2	00075	9	759	114	BD-01	913	36167
89	05 13 05.37	-40	-08 38 31.2	3.6	8	1	20	.A	194.3	-15.7	K2	+080589	1.9	112652	1.5	+10083	15			BD-08	926	34657
90	05 18 31.15	-32	-07 18 24.4	3.5	46	2	56	.AA	195.5	-16.3												
91	05 21 31.84	-34	-07 51 09.7	4.9	48	11	5	.C8	210.0	-23.0	K0									BD-07	1064	35369
92	05 22 02.20	-18	-06 11 28.3	3.1	103	8	18	.A7A	208.4	-22.1	M8					10091	85	740	95			
93	05 22 26.87	-22	-06 18 19.0	4.5	35	7	26	.BA	196.9	-16.0	B2					+10084	20			BD-06	919	35468
94	05 25 39.26	-37	-03 39 02.5	3.0	50	6	201	.AAB	195.3	-14.1						+10096	31					
95	05 26 32.61	-23	-04 43 51.9	2.7	302	76	48	.C59	207.6	-20.5	MD											
96	05 27 11.56	-22	-01 07 47.2	2.6	126	20	40	.A9A	204.3	-18.6	K5	-010560	1.9	132176	1.2	00075	9	759	114	BD-01	913	36167
97	05 29 13.14	-32	-07 34 39.7	3.3	42	7	60	.78	196.7	-13.9						+10087	22					
98	05 30 31.68	-36	-07 07 08.4	4.6	69	15	66	.C99	197.3	-13.6	N					+10089	3			BD-07	929	
99	05 30 35.83	-40	-08 10 16.2	3.3	13	2	62	.98A	196.0	-13.1	K0	+070626	.7							BD-08	997	36601
100	05 32 32.86	-25	-03 40 06.9	3.2	130	20	502	.A9B	198.2	-12.6	MB	+080620	1.6	112927	1.4	+10090	23	760	33	BD-08	1005	36914
101	05 35 06.95	-22	-01 47 59.2	4.1	116	28	11	.68	205.9	-17.2						00080	47	786	60			
102	05 35 38.20	-54	-08 27 34.5	5.3	8	1	20	.68B	196.7	-12.0	G5	+060634	1.2	112986	3.6					BD-08	1024	37355
103	05 39 53.15	-17	-01 27 10.8	3.7	36	0	4	.A	203.5	-14.6	G5	+010611	4.3	113056	4.3	00083	31			BD-01	1105	37884
104	05 40 26.35	-48	-07 51 42.1	2.8	7	2	6	.70	198.6	-10.1	K0	+070658	.7	113165	1.1					BD-07	1018	38309
105	05 49 50.32	-21	-01 50 35.5	3.6	63	7	5	.AA	204.4	-12.2	K0	+010630	3.8	113200	4.5	00089	33	830	36	BD-01	1151	39400
106	05 51 11.68	-31	-03 26 15.0	3.6	29	4	71	.9AA	198.7	-8.7	MO	+080664	.7			+10098	9			BD-03	1103	
107	05 51 38.35	-25	-03 13 02.2	5.8	23	18	5	.C5	203.4	-11.2	K0	+030717	2.8	113253	3.6					BD-03	1071	39685
108	05 52 27.78	-15	-07 23 56.0	2.5	13489	1488	142	.AAA	199.8	-9.0	MA									BD-07	1055	39801
109	05 56 21.57	-66	-08 55 37.9	5.3	6	1	24	.AA	199.8	-7.4	K5	+080677	1.1	113324	1.1	+10100	3	836	60	BD-08	1131	40444
110	05 59 15.81	-25	-02 21 11.5	3.8	276	56	35	.B99	209.3	-12.1	MC	-020185	.3	132754	.3	00096	41	858	109	BD-02	1448	40013

EIC	R.A.1950	SORA	DEC.1950	SDDC	FL	SDFL	OBS	1234	L	B	TYPE	AKG3	EAG	SAO	ESA	THSS	ETH	AFGL	EAF	....DM....	HD
111	05 59 27.21	.38	+08 27 07.5	3.2	22	3	34	.AA.	199.7	-6.9	K2	+070708	6.1	113402	7.2	+10104	2			BD+07 1103	41079
112	06 00 28.87	.53	+07 37 42.2	4.3	10	1	11	.9A.	200.6	-7.1	K2	+070715	2.9	113440	2.2					ED+07 1121	41450
113	06 02 52.94	.30	+07 32 32.6	4.8	10	0	7	.BA.	200.9	-6.6	K5	+080710	2.1	113525	2.5					ED+08 1210	42217
114	06 07 04.55	.40	+08 45 16.2	3.5	9	1	22	.9A	200.4	-5.1	K5										
115	06 08 06.93	.13	+03 46 03.0	4.3	41	4	20	.9A.	204.9	-7.3											
116	06 08 58.00	.26	+07 14 16.4	3.8	37	4	9	.B.A.	214.9	-12.2	MA										
117	06 10 18.74	.26	+06 01 49.0	4.3	41	4	37	.AA.	203.2	-5.7	MA	+060696	.3	113592	1.2	-10111	16	892	37	BD-07 1318	42619
118	06 10 25.62	.17	+07 17 07.4	3.6	34	7	8	.A.	215.1	-11.9	MA										
119	06 12 24.93	.21	+06 15 28.8	2.9	124	18	62	.AA.	214.4	-11.0	K0										
120	06 14 58.27	.39	+08 32 20.7	3.6	47	5	97	.AAB	201.5	-3.5											
121	06 17 29.18	.60	+02 55 14.5	3.6	138	22	23	.A.A.	212.0	-8.3	MA										
122	06 18 07.94	.16	+05 45 50.0	3.2	35	2	10	.A.	204.3	-4.2	A	+050763	.8	113741	1.2	+10116	47			ED-02 1534	44131
123	06 18 26.18	.24	+02 35 35.6	1.6	63	5	5	.A.	207.2	-5.6	MB	+020702	2.6	113750	2.9	+10101	6	919	186	ED+05 1158	46214
124	06 19 15.50	.31	+07 22 26.0	4.2	40	6	49	.B9B	203.0	-3.1											
125	06 19 46.07	.17	+03 26 59.6	3.5	82	18	25	.88C	206.6	-4.9											
126	06 20 12.33	.30	+02 10 06.9	1.0	118	8	6	.9A.	211.6	-7.4	MD										
127	06 21 04.03	.43	+08 31 30.3	2.7	15	5	7	.A.	202.2	-2.2											
128	06 21 08.03	.44	+08 30 49.3	3.9	16	4	22	.85C	202.2	-2.2											
129	06 21 28.52	.44	+08 28 09.8	3.1	17	2	15	.9J.	202.3	-2.2											
130	06 22 08.70	.17	+03 47 31.2	5.9	47	4	12	.AA.	206.5	-4.2	MA	+030794	1.4	113838	2.1	+10108	17			BD+03 1233	44645
131	06 23 57.06	.39	+03 39 55.8	3.5	13	2	43	.AA9	202.4	-1.5	K0	+060762		113879	1.2					BD+08 1333	45255
132	06 26 10.60	.52	+06 47 44.5	4.4	16	1	7	.AA.	204.3	-1.9	MA	+060751	3.2	113934	2.8					BD+06 1259	45639
133	06 26 37.96	.15	+02 40 48.0	4.7	44	3	11	.AA.	203.0	-3.7	MA	+020729	.3	113940	.3	+10113	17			ED+02 1253	45724
134	06 26 50.85	.29	+08 03 58.6	4.1	60	5	21	.AA.	217.7	-6.6	MA										
135	06 26 51.26	.50	+05 49 18.1	4.5	11	3	32	.C96	202.6	-8											
136	06 27 19.17	.36	+07 57 19.8	3.9	13	1	21	.AA.	203.4	-1.1	K2	+070801	1.6	113956	1.9	+10125	45	949	155	ED+08 1367	45829
137	06 27 41.27	.40	+08 05 44.5	4.8	22	3	42	.AA.	203.4	-1.0											
138	06 27 41.63	.51	+09 03 35.6	4.1	9	1	27	.88A	202.5	-5	K7										
139	06 31 39.74	.35	+09 07 31.0	4.1	10	1	67	.AB	202.9	-4	K5	+040730		114070						BD+09 1262	45852
140	06 31 56.06	.23	+05 00 28.0	4.5	70	10	19	.AAC	206.6	-1.5	MB	+050924	1.4	114079	1.4	+10126	29	984	109	ED+09 1284	46555
141	06 32 40.31	.26	+01 28 06.9	4.6	75	14	9	.ACB	212.4	-4.3	MB	-010768	.7	113437	1.4	+10117	18			ED+05 1306	46612
142	06 33 18.88	.22	+05 20 07.0	2.4	246	37	60	.AAA	216.0	-5.9											
143	06 34 59.13	.27	+01 21 02.8	3.7	149	38	38	.AA.	212.6	-3.7											
144	06 35 13.39	.23	+07 46 23.5	5.4	9	0	7	.AA.	204.5	-5	K0	+070826	1.8	114161	2.3	+10119	18	977	48	ED+07 1379	460988
145	06 36 11.06	.23	+05 14 11.0	3.4	45	4	21	.AA.	206.9	-4	MA										
146	06 36 28.08	.41	+08 46 53.4	5.2	6	1	11	.AA.	203.8	-1.3											
147	06 37 52.24	.32	+06 17 57.1	4.1	37	9	9	.9.B	217.3	-5.4	MA										
148	06 39 36.84	.41	+07 26 48.1	5.0	21	3	9	.AA.	205.3	-1.3	K5	+070839	1.8	114299	.7	+10135	16			ED-06 1664	47821
149	06 42 03.16	.15	+03 22 06.9	3.5	31	4	10	.B9.	209.2	.0											
150	06 42 21.28	.39	+09 05 28.3	3.2	34	10	122	.485	204.2	2.7											
151	06 42 50.54	.36	+08 05 30.8	2.7	31	3	27	.AAC	205.1	2.4											
152	06 43 48.50	.42	+09 15 30.6	4.6	10	2	31	.B9	204.2	3.1	K5	+090771	1.2	114387	.3	+10137	20			ED+09 1382	48976
153	06 44 22.75	.27	+08 04 11.2	3.6	23	3	24	.A8	205.3	2.7											
154	06 44 36.02	.09	+01 35 05.6	2.9	44	4	5	.BA.	211.1	-2	MA										
155	06 44 36.76	.30	+03 05 32.6	3.6	64	8	53	.A9B	205.3	2.7	K0	+010753	.8	114409	1.5	+10126	13			ED+01 1506	49163
156	06 45 15.09	.18	+02 28 07.6	4.1	46	0	8	.AA.	210.4	.3	K0	+060838	1.0	114410	.7	+10138	26	1010	157	ED+03 1486	49161
157	06 45 21.50	.50	+08 20 12.4	3.9	10	1	13	.90.	205.2	3.0											
158	06 48 18.76	.15	+00 00 47.5	4.7	33	3	7	.AA.	212.9	-2.2	MO	-000876	.5	114535		+10130	57			ED+00 1644	
159	06 49 19.02	.20	+04 49 31.0	2.9	178	31	87	.B99	206.7	2.3	MB	+040572	.3	114558	.3	+10143	66	1028	83	ED+04 1476	50133
160	06 50 03.57	.23	+08 29 00.6	3.5	156	62	244	.811	205.6	4.1											
161	06 50 13.43	.34	+08 43 35.7	5.2	8						K0	+080855	7	114558	.3	+10144	13	1038	161	ED+08 1544	50300
162	06 52 55.60	.24	+06 26 35.9	3.8	131	36	122	.99F	207.7	3.8											
163	06 53 29.73	.44	+08 48 41.4	5.9	5	1	7	.AA.	205.7	5.0	K2	+080369	1.6	114642	1.9	+10145	26			ED+08 1568	51074
164	06 54 35.53	.29	+03 38 39.8	2.3	23	4	17	.BAD	205.9	5.2											
165	06 55 07.68	.19	+03 22 14.8	5.0	39	4	14	.A9.	210.7	2.9											



EIC	R.A.1950	SDRA	DEC.1950	SDDC	FL	SDFL	OBS	1234	L	B	TYPE	AGK3	EAG	SAO	ESA	THSS	ETM	AFGL	EMF	DM....	MD
166	06 55 40.70	.23	+06 14 07.4	4.5	107	17	70	.A9A	208.2	4.3	NB	+060844		114704	1.1	+10146	32	1045	110	BD+06 1642	51420
167	06 58 31.70	.31	-03 10 49.8	5.7	57	10	10	.A..	216.9	.6	R5			134049	1.1	+10145	25	1053	68	BD+03 1885	52432
168	06 59 29.01	.22	-05 38 55.6	3.6	115	13	53	.A9B	219.2	-3	K5			134076	2.1	-10145	44			BD+05 1926	52666
169	06 59 37.12	.22	-03 40 54.8	3.9	42	5	7	.A.B	217.5	.7	K0			134082	.3	+10143	29			BD+03 1694	52690
170	07 02 54.64	.34	+09 15 46.0	3.0	39	5	105	.AA	206.3	7.3	K0			114699	.7	+10151	43			BD+09 1510	53510
171	07 04 14.63	.34	+08 57 19.8	3.2	50	8	65	.A4A	206.7	7.5											
172	07 04 31.08	.22	-07 28 42.9	2.7	163	32	102	.99B	221.4	.0											
173	07 05 58.41	.24	+04 15 24.4	4.6	36	5	12	.A..	211.2	5.7	MA	+040918	.5	114976	1.5	+0146	13	1077	285	BD+04 1599	54355
174	07 07 44.78	.20	-04 09 20.5	3.4	29	3	7	.A.A	218.8	2.2	K0			134282	3.5	+0147	16			BD+04 1640	54810
175	07 10 21.36	.15	+02 42 41.0	4.2	17	1	9	.A..	213.0	6.0											
176	07 11 15.79	.24	-03 51 46.8	2.1	46	0	6	.A.A	219.0	3.1	MC			134375	.3	+0149	12			BD+03 1800	55453
177	07 11 41.37	.51	-03 48 53.6	5.0	35	9	7	.C.7	219.0	3.3	K5			134391	2.2	+0150	54			BD+03 1804	55775
178	07 12 09.81	.14	+03 11 52.8	4.7	27	2	9	.A..	212.8	6.5	G5			115119	2.0	+0151	43			BD+03 1609	55751
179	07 12 09.82	.14	+04 14 21.1	5.7	14	2	8	.A..	211.9	7.1	MA	+040938	.5	115133	2.2					BD+04 1635	55828
180	07 12 31.43	.43	+08 28 19.5	3.4	26	4	28	.AA	208.1	9.1	K2	+080942	1.8	115143	1.4	+10157	9			BD+08 1710	55921
181	07 12 56.61	.23	+08 03 56.8	3.3	133	19	151	.A9A	208.5	9.0	MB	+080943	1.4	115159	1.4	+10160	20			BD+08 1712	56031
182	07 12 58.24	.18	+06 00 34.9	3.7	36	3	11	.A.9	210.4	8.1	MA	+060900	2.8	115160	2.6	+10159	18			BD+06 1567	56033
183	07 12 59.47	.41	+05 08 56.0	4.6	27	3	8	.A..	211.2	7.7											
184	07 14 56.66	.25	+08 53 12.8	5.8	8	1	8	.A.B	208.0	9.8	K5	+080951	6.8	115213	5.7					BD+09 1605	56539
185	07 16 25.03	.14	+03 37 27.4	2.1	67	6	11	.AA	212.9	7.7	MB	+030973	1.7	115249	1.0	+0154	14			BD+03 1639	56889
186	07 19 21.28	.23	+03 12 10.8	4.4	11	2	5	.A..	213.6	8.2	K5	+030992	2.2	115330	1.7					BD+03 1658	57591
187	07 21 30.38	.35	+08 59 45.2	3.5	19	2	41	.ACA	208.6	11.3	G5			115425		+10162	7				
188	07 22 54.81	.36	+09 22 33.6	4.3	24	6	34	.D9	208.4	11.8		+080995	.7	115455	.7	+10163	76			BD+09 1643	58367
189	07 24 21.26	.35	+09 09 43.0	4.6	11	2	24	.9.B	208.8	12.0	K0	+031007	3.2	115482	3.2					BD+09 1655	58714
190	07 24 34.24	.27	+03 39 50.4	4.7	14	2	7	.A..	213.8	9.6	K5	+031007	3.2	115482	3.2					BD+03 1668	58783
191	07 25 26.18	.25	+09 01 40.8	2.8	128	18	425	.A9B	209.0	12.2	K0	+080988	1.0	115478	1.1	+10164	10	1127	41	BD+09 1660	58972
192	07 30 00.19	.21	+08 25 33.2	3.0	185	25	238	.AAB	210.1	12.9	MD			115591	1.4	+10167	10	1138	46	BD+08 1800	59550
193	07 32 22.31	.19	+06 18 15.4	2.7	29	2	8	.A..	212.3	12.5	MA	+060983	3.0	115661	3.3	+10169	23			BD+06 1720	60501
194	07 33 51.57	.28	-08 11 56.7	2.3	33	5	17	.A8	225.5	6.0	K2			134383	.3	-10170	64			BD+07 2065	60853
195	07 36 39.79	.21	+05 20 47.0	2.2	529	66	84	.A9B	213.7	13.0	F5			115756	3.2	+10170	35	1161	135	BD+05 1739	61421
196	07 38 37.10	.27	+08 29 51.0	3.5	28	9	25	.A..	211.0	14.9											
197	07 39 18.52	.19	-04 03 32.4	1.4	50	4	6	.AA	222.5	9.2											
198	07 42 54.43	.13	+05 19 48.7	4.4	28	1	7	.A..	214.4	14.4											
199	07 43 35.04	.17	-06 38 56.7	3.4	30	2	7	.A..	225.3	8.9	K2			135079	4.3	-10175	31			BD+06 2261	62902
200	07 49 29.90	.20	+03 24 26.2	2.4	128	18	64	.AAA	217.0	15.0	MA	+031073	1.0	116094	1.2	+0163	28	1200	29	BD+03 1824	64052
201	07 51 01.48	.51	+09 07 55.6	4.4	5	0	7	.A..	211.8	17.9	K2	+080981	3.4	116080	2.5					BD+09 1805	64353
202	07 53 51.26	.24	+06 32 24.0	4.7	17	1	7	.A..	214.6	17.4	K5	+061020	.7	116143	2.1	+10180	42			BD+06 1823	64937
203	07 58 40.82	.20	-01 15 10.4	2.8	113	15	27	.A9A	222.4	14.8	K0	-011162	.8	135350	1.4	+0166	13	1216	85	BD+00 1892	65953
204	07 59 39.62	.05	+02 28 27.1	.8	87	18	4	.C8	219.1	16.8	K0	+021046	1.2	116260	1.6	+0167	33	1218	128	BD+02 1854	66141
205	08 03 02.71	.26	+05 45 26.0	3.5	16	1	7	.A..	215.5	19.5											
206	08 03 29.25	.20	+05 43 34.6	3.7	21	2	6	.A..	216.5	19.1	M5	+051157	1.1			+10182	5	1228	92	BD+05 1872	
207	08 09 11.46	.22	+05 56 51.3	2.7	15	1	9	.A..	217.0	20.5	MA	+051176	1.4	116466	1.2					BD+06 1891	66358
208	08 09 53.49	.24	+07 07 36.1	3.9	19	1	12	.A..	215.9	21.2	M2	+071172	2.6	116475	1.7	+10183	20			BD+07 1938	69267
209	08 13 48.14	.25	+09 20 26.1	2.7	250	37	205	.BAA	214.3	23.0	K2			116559		+10186	37			BD+09 1917	69666
210	08 14 58.05	.20	+09 19 14.1	3.8	2	2	17	.A.A	214.4	23.3	K5	+091055	.7							BD+07 2433	
211	08 16 47.58	.20	-07 24 00.7	2.9	25	4	6	.AA	230.2	15.7	K5	+051219	.7	116668	1.1	+10187	6	1244	84	BD+05 1942	70852
212	08 18 54.69	.18	+05 07 04.8	3.6	98	29	49	.AC9	230.7	16.4	MA			135540	.3	-10193	6			BD+07 1971	70859
213	09 02 27.33	.21	-07 22 54.8	2.7	171	26	59	.A9A	219.0	22.3	M9										
214	09 20 49.67	.27	+06 58 26.7	3.5	9	1	6	.A..	217.4	23.6	K5	+061081	3.3	116705	3.5					BD+07 1971	70859
215	08 22 01.94	.17	-08 21 27.3	2.0	187	25	68	.A..	231.8	16.3	MB			135876	2.1	-10194	28	1250	133	BD+08 2343	70938
216	08 23 35.79	.21	-04 44 11.0	2.9	117	12	38	.BA9	228.7	18.5	MC			135976		-10196	2			BD+05 2350	71837
217	08 27 13.15	.21	-06 09 01.4	2.7	233	34	64	.A9B	230.5	18.5	K0	+031189	1.4	116983	1.4	+0176	25	1276	86	BD+03 2026	73471
218	08 36 03.51	.14	+03 31 06.2	6.2	54	5	8	.A..	222.7	25.3				135221	1.9	-10204	34			BD+06 2708	74395
219	08 41 12.78	.18	-07 03 08.2	2.8	22	2	5	.AA	233.3	21.0	G0										
220	08 43 45.88	.19	+01 43 56.5	1.8	228	28	35	.AAA	225.4	26.1	M5	+011107		117103	.3	+0179	2	1288	37	BD+02 2062	



EIC	R.A.1950	SDRA	DEC.1950	SDCC	FL	SOFL	OBS	1234	L	B	TYPE	AGK3	EAG	SAO	ESA	THSS	ETH	AFGL	EAF	....OM....	HD
221	08 44 07.24	.22	+06 36 09.7	4.2	71	4	13	A.9	220.7	28.5	F9										
222	08 45 36.62	.27	+06 22 22.4	.8	15	2	7	.9B	233.3	22.1	K0										80-06 2727 75140
223	09 07 37.98	.44	+09 27 29.5	2.4	10	0	9	A.A	218.2	30.6	K5										80+09 2067 75432
224	08 52 44.63	.17	+06 08 12.6	3.0	129	20	55	.9A	221.3	30.2	K0										80+06 2060 76294
225	09 00 35.01	.34	+08 24 40.3	3.3	14	3	11	.9B	222.0	33.0	K0										
226	09 00 35.03	.40	+07 00 47.8	3.9	8	0	6	A.A	222.5	32.3	K0										80+07 2068 77518
227	09 03 20.39	.32	+05 17 34.8	3.9	35	4	13	A.B	224.7	32.1	K0										80+05 2116 77566
228	09 04 24.98	.16	+01 39 53.6	5.2	55	10	7	.8B	228.5	30.5	MA										80+02 2145 78186
229	09 04 50.49	.32	+06 31 28.5	3.1	15	2	6	A.A	223.6	33.0	MB										80+06 2107 78281
230	09 14 12.55	.18	+06 08 36.9	1.7	29	5	5	A.A	237.5	28.3	K0										80-05 2762 79910
231	09 18 02.61	.21	+00 23 37.6	3.3	102	18	9	.7B	231.9	32.7	MB										80+00 2499 80547
232	09 20 49.77	.30	+07 55 44.0	4.5	55	4	23	.AA	224.4	37.2	MA										80+06 2215 81028
233	09 22 53.78	.10	+04 54 08.2	4.2	34	2	4	.AB	237.8	30.7	K5										80-04 2616 81420
234	09 25 44.90	.21	+07 30 07.9	3.8	28	6	29	.FA	240.7	29.7	MA										80-07 2813 81884
235	09 25 46.92	.45	+09 16 30.7	3.5	8	1	20	.9C	223.7	38.9	G0										80+09 2189 81858
236	09 25 49.44	.17	+08 24 24.1	3.0	13	2	13	A.A	224.6	39.5	K0										80+09 2226 81873
237	09 32 01.77	.33	+08 24 37.0	4.2	19	3	13	A.A	225.6	39.8	MA										80+05 2243 83199
238	09 32 02.97	.23	+05 41 29.0	1.7	19	1	4	.AB	240.2	32.1	K0										80-05 2840 83670
239	09 34 34.15	.21	+07 03 39.8	3.1	25	3	19	.AA	227.5	39.7	K0										80+07 2160 83140
240	09 35 50.32	.43	+04 52 32.5	2.9	40	12	12	.BA	230.2	38.9	K0										80+05 2207 83425
241	09 37 18.09	.15	+00 54 55.4	2.7	136	22	14	.AB	236.5	36.0	K0										80+00 162 83618
242	09 43 31.65	.38	+06 56 24.0	5.2	55	8	19	.8C	229.1	41.6	MA										80+07 2161 84542
243	09 43 48.21	.40	+08 41 17.8	5.0	7	1	12	A.A	227.2	42.5	MA										
244	09 51 05.37	.32	+06 11 41.6	4.9	80	15	24	.9B	231.3	42.8	MA										80+06 2254 85709
245	09 51 29.65	.13	+05 10 54.8	2.9	19	2	9	A.9	232.6	42.3	K5										80+05 2248 85762
246	09 52 16.58	.34	+05 26 06.0	3.1	21	2	10	A.A	232.4	42.6	M2										80+05 2249 86080
247	09 53 46.75	.35	+09 10 14.8	3.5	14	2	34	.AA	228.3	44.9	K0										80+09 2262 86369
248	09 55 28.75	.37	+08 33 10.6	3.8	19	1	28	.AA	229.3	45.0	K0										80+05 2263 86476
249	09 56 11.99	.26	+05 02 53.5	4.8	25	3	10	A.C	233.6	43.2	MA										80+05 2263 86476
250	09 57 34.22	.24	+06 17 03.8	2.6	170	23	93	.AA	230.0	45.3	MA										80+05 2263 86476
251	10 05 15.98	.33	+07 23 09.9	5.2	29	7	28	.BA	246.2	37.3	MA										80+06 2265 87855
252	10 06 37.70	.15	+06 25 00.4	2.6	11	1	9	.9B	234.0	46.2	K0										80+06 2265 87855
253	10 06 52.24	.23	+09 50 18.9	2.6	26	3	92	.AA	229.8	48.0	MA										80+10 2116 83071
254	10 19 35.63	.35	+09 13 00.4	3.7	22	2	80	.AA	233.1	50.4	K5										80+09 2344 89248
255	10 20 23.61	.22	+06 47 47.7	4.1	11	1	12	.9A	235.4	49.2	K0										80+07 2289 89782
256	10 22 17.03	.33	+09 02 20.4	3.5	84	17	71	.AB	233.9	50.9	MA										80+09 2351 90154
257	10 23 13.64	.28	+06 48 19.8	2.7	55	3	7	.A	251.7	40.9	K5										80-06 3146 90362
258	10 23 27.21	.40	+07 15 34.2	3.6	16	3	22	.8C	252.2	40.6	K5										80-06 3173 91106
259	10 28 28.24	.41	+07 22 48.7	4.2	21	3	30	.AA	253.5	41.4	K5										80+07 2330 91612
260	10 28 49.94	.44	+09 36 31.6	3.3	10	2	66	.9B	234.5	52.5	K0										80+09 2393 92576
261	10 32 11.23	.21	+07 12 42.4	4.2	20	2	34	.9AB	238.5	51.8	K0										80+05 2394 92576
262	10 38 46.19	.40	+08 49 25.6	3.3	13	2	61	.9A	237.9	54.1	MA										80+07 2330 91612
263	10 40 45.09	.22	+05 00 39.2	4.2	17	2	9	.9B	243.5	52.2	K0										80+05 2394 92576
264	10 42 32.40	.18	+06 33 40.6	4.5	29	6	17	.ACA	256.3	44.3	MA										80+05 2394 92576
265	10 46 07.19	.25	+01 41 41.2	6.4	43	14	5	.89	252.6	48.5	MA										80-01 2466 93655
266	10 48 09.55	.34	+08 55 48.0	2.7	50	6	68	.9A	239.6	55.6	M7										80+07 2330 91612
267	10 53 25.53	.22	+06 27 06.1	3.5	502	109	59	.9B	245.1	55.5	MB										80+09 2393 92576
268	10 57 58.68	.22	+03 53 11.4	4.4	37	5	17	.9A	249.7	54.6	K0										80+07 2330 91612
269	10 59 16.48	.18	+02 12 54.0	2.0	133	19	22	.AA	256.9	50.3	MA										80+05 2394 92576
270	10 59 40.60	.23	+04 28 05.8	5.8	11	1	10	.8B	249.5	55.3	MA										80+05 2394 92576
271	11 01 05.37	.09	+02 56 04.2	1.8	99	6	5	.A	258.1	50.1	MC										80+05 2394 92576
272	11 01 43.75	.22	+05 59 40.2	4.4	14	2	16	.9B	248.6	56.4	MA										80+06 2397 95600
273	11 02 25.74	.13	+07 36 20.8	3.4	10	2	7	.9B	246.1	57.9	F0										80+03 2455 96097
274	11 03 27.91	.09	+01 28 49.0	3.1	26	4	6	.A	254.2	53.8	MA										80+01 2471 95578
275	11 04 20.47	.20	+02 13 36.4	3.7	19	5	6	.A	253.6	54.5	G5										80+02 2387 96436

EIC	R.A.1950	SORA	DEC.1950	SDDC	FL	SOFL	OBS	1234	L	B	TYPE	AGK3	EAG	SAO	ESA	THSS	ETH	AFGL	EA	.....DM.....	MD
276	11 07 54.86	.33	+08 09 47.1	4.2	13	1	40	9A	247.1	59.3	K5	+081451	118702	1.0						ED+08 2465	97053
277	11 11 25.96	.36	+08 20 01.3	3.8	15	2	56	9A9	248.0	60.1	K5	+081462	118735	3.9						ED+08 2476	97405
278	11 14 43.05	.18	+02 17 07.4	4.7	75	7	6	AA	257.0	56.2	K5	+021476	2.5 118764	2.9		00203	7			ED+02 2409	98118
279	11 17 30.98	.24	+05 55 27.1	4.8	17	2	28	9BA	253.5	54.4	MB	+051615	1.0 118795	1.1						ED+06 2434	98515
280	11 18 54.69	.17	+04 12 41.0	4.7	12	1	7	AA	256.2	58.4	K5	+041505	5 118807	1.0						ED+04 2452	98693
281	11 23 42.59	.17	+08 56 03.8	3.7	13	2	70	88B	251.5	62.7	K5	+081486	.3 118875	1.0						ED+09 2494	99393
282	11 25 21.88	.17	+03 07 53.0	4.0	23	3	13	AB	259.9	58.6	K2	+031498	.3 118875	1.1		00205	60			ED+03 2504	99548
283	11 27 45.52	.18	-02 43 40.4	4.4	105	18	21	8B	266.8	54.1	K2	-020668	.3 118903	1.1		00206	24	1492	5	ED+02 3350	99998
284	11 28 52.41	.32	+09 01 32.8	3.2	20	2	72	9AB	253.4	63.6	M5	+091413	118903	1.7		10241	6			ED+09 2509	
285	11 30 14.61	.24	-07 33 04.6	2.8	20	3	13	9B	271.6	50.2	K0		138265	2.5		-10257	33			ED+07 3250	100343
286	11 31 02.06	.15	+02 46 30.7	4.9	27	2	9	9B	262.5	59.1	K5	+021501	118923			00208	12			ED+03 2519	100456
287	11 34 19.60	.31	+09 48 20.1	2.4	31	3	170	AA7	254.4	65.1	K5	+091430	2.6 118958	1.5		00210	34			ED+05 2517	
288	11 35 13.84	.11	+04 35 59.2	3.9	16	1	11	9B	262.1	61.2	M5	+041527	1.9 118961	1.4						ED+09 2523	101112
289	11 35 34.91	.34	+09 09 37.4	4.2	9	1	48	98A	256.0	64.8	K0	+091434	1.1 118965	1.0		+10243	18	1502	49	ED+08 2532	101153
290	11 35 52.80	.23	+08 24 38.5	3.0	325	43	148	98A	257.3	64.3	MB	+081439	1.0 118965	1.0		+10245	7	1509	80	ED+07 2479	102212
291	11 43 17.20	.25	+06 48 28.4	3.7	245	39	92	8AB9	262.9	64.2	MA	+061460	.8 119035	1.0		+10246	23			ED+07 2490	102253
292	11 43 31.82	.33	+07 27 05.7	5.4	22	3	52	9A	262.1	64.7	MA	+071572	1.2 119038	1.6						ED+02 2479	
293	11 44 20.20	.09	+01 52 53.7	3.9	12	2	6	8CB	269.0	60.2	M5	+011412	1.7							ED+02 2489	102870
294	11 48 06.57	.25	+02 02 39.4	3.2	10	6	10	9BA	270.5	60.8	F8		119076	.8		00212	5			ED+02 2489	102870
295	11 48 59.85	.28	+07 09 15.4	4.7	11	1	41	8A	265.1	65.3	K5	+071577	1.1 119080	.7		-10259	7			ED+07 2489	102999
296	11 50 11.59	.25	-07 19 05.5	3.3	119	19	84	9AA	278.6	52.5	MC		138457							ED+06 3469	103154
297	11 51 30.57	.15	+05 09 23.4	2.3	6	1	6	AA	268.8	63.9	K5	+051670	1.4 119101	1.9						ED+05 2555	103340
298	11 52 28.99	.32	+08 43 19.2	4.1	12	2	69	89B	264.8	67.0	K0	+081523	119111	1.0						ED+09 2560	103484
299	11 55 10.94	.42	+07 15 06.8	6.2	5	0	14	AA	268.2	66.2	K0	+071591	5.6 119134	5.6						ED+07 2499	103800
300	11 55 40.12	.33	+03 45 38.8	6.3	37	7	18	9C	272.4	63.2	MA	+031567	1.9 119139	1.9		00213	34			ED+04 2553	103945
301	11 56 49.94	.27	+02 06 15.8	3.6	11	1	8	AA	274.5	61.8	K0	+021537	4.0 119150	4.0						ED+02 2499	104101
302	12 00 01.27	.31	+08 20 52.4	4.1	21	3	73	98B9	269.4	67.7	MA	+081538	.7 119180	.3		+10248	40			ED+08 2562	104575
303	12 00 17.66	.25	-07 24 18.7	3.5	20	4	34	8A	282.5	53.3	K5		138551	1.4		-10261	19			ED+06 3499	104625
304	12 01 44.92	.28	+05 12 36.7	4.9	18	2	16	98B	274.0	65.1	MA	+051685	1.1 119200	.8		00214	27			ED+05 2550	104831
305	12 02 02.08	.13	+02 53 53.1	3.7	22	2	4	AA	276.4	63.0	MA	+021543	.3 119203	2.4		00215	15			ED+03 2593	104831
306	12 02 39.09	.36	+09 00 39.1	3.1	48	9	120	98B9	270.1	68.6	G5		119213	1.8		+10250	18			ED+09 2593	104979
307	12 04 40.87	.25	-06 29 15.7	3.8	215	33	66	9AB9	283.8	54.5	MB	+081546	2.1 119247	2.9		-10263	8	1535	32	ED+05 3424	105266
308	12 07 12.76	.44	+08 27 23.4	3.4	4	0	5	AC	273.5	68.6	MA		138584	1.2						ED+03 2573	105452
309	12 17 47.76	.22	+03 35 27.2	6.1	34	7	13	9B	284.3	65.1	K0	+031610	3.0 119341	3.3		00215	54			ED+04 2604	107328
310	12 19 41.68	.25	+05 07 55.9	4.5	51	6	16	98B	284.3	66.7	MB	+051722	.7 119357	1.1		+10252	10			ED+05 2620	107457
311	12 21 38.25	.33	+06 14 56.7	6.2	28	6	27	8AB	284.7	67.9	MS	+061555	2.2 119372	2.4		+10253	32			ED+06 2606	107937
312	12 22 40.58	.19	+01 02 45.6	4.9	189	47	43	8780	288.4	62.9	K0		119413	1.5		00217	10	1549	90	ED+09 2628	108471
313	12 25 09.26	.45	+03 53 11.4	3.6	6	1	49	AA	285.0	70.6	MC	+041621	.3 119433	.7		00220	33	1554	74	ED+05 2634	108849
314	12 27 47.88	.18	+04 41 32.6	2.4	472	59	73	9AA	289.5	66.7	MC	+041645	.7 119453	.7		+10254	15			ED+08 2609	108925
315	12 28 48.74	.30	+07 52 48.0	3.8	27	3	57	9AB	286.3	69.9	K5	+071649	.3 119463	.7		+10255	26			ED+08 2614	109236
316	12 30 35.58	.10	+07 31 32.5	4.6	24	2	56	AAAC	289.8	69.7	MC	+071649	.3 119463	.7		00221	19	1566	103	ED+02 2550	109896
317	12 35 49.00	.19	+02 07 44.7	3.2	117	19	44	9AAC	295.3	64.5	MA	+021555	.5 119509	.8		+10256	31	4157	45	ED+07 2561	109914
318	12 35 57.45	.34	+07 15 47.1	4.8	32	9	51	ATC	293.7	69.6	MD	+071658	119509	1.0		+10256	41			ED+07 2561	109914
319	12 36 39.21	.26	-07 43 15.2	2.4	46	5	20	AA	297.7	64.8	K5	+061553	1.4 119537	1.1		-10269	41			ED+07 3452	110014
320	12 39 17.18	.26	+06 08 30.8	4.9	7	1	8	AA	296.4	68.6	K5	+061553	1.4 119537	1.1						ED+06 2644	110414
321	12 39 43.12	.34	+04 33 59.0	6.3	6	0	6	CA	297.1	67.1	K2	+041643	2.9 119542	3.9						ED+05 2669	110468
322	12 43 31.02	.34	+07 43 03.0	3.7	5	0	9	AA	299.0	70.3	K0		119586	2.8						ED+10 2468	111028
323	12 44 50.49	.29	+09 48 54.3	2.4	15	2	125	AA	298.8	72.4	K0	+091549	2.5 119586	2.9		00224	29	1579	68	ED+09 2669	111132
324	12 45 30.33	.46	+09 20 12.4	3.5	8	1	123	9C	299.4	71.9	K0	+091551	2.1 119586	2.8						ED+04 2653	111239
325	12 45 45.50	.21	+04 25 02.6	3.1	159	37	78	85B9	300.3	67.0	MA	+031648	2.1 119596	1.7		00225	16			ED+03 2703	111765
326	12 45 18.45	.29	+03 50 44.8	4.4	39	10	12	AB	300.7	66.4	MA		119633	2.5		00226	14	1586	174	ED+04 2569	112300
327	12 46 14.01	.24	+07 39 13.5	4.7	6	0	19	AA	301.0	70.2	K0	+031653	2.6 119633	2.5		+10260	14			ED+09 2700	112737
328	12 49 03.86	.19	+03 19 44.0	1.9	16	1	6	9BA	303.5	66.2	MA	+081609	119690								
329	12 53 04.00	.19	+03 40 05.8	3.1	851	146	68	9BA	305.5	66.2	MA										
330	12 56 16.99	.35	+08 20 46.2	4.1	19	3	101	99C	308.5	71.0	MA										



EIC	R.A.1950	SORA	DEC.1950	SDDC	FL	SDFL	OBS	1234	L	B	TYPE	ARK3	EAG	SAO	ESA	THSS	ETM	AFGL	EAF	DM	MD
331	13 00 05.61	24	+05 27 13.6	3.4	597	76	29	98A	310.4	67.9	MAP	+051798	1.7	119734	.5	+10262	11	1594	164	BD+05 2708	113285
332	13 00 55.22	24	+05 10 35.0	5.3	27	3	16	98B	310.8	67.6	MA	+051800	.7	119743	1.4	+10263	34			BD+05 2709	113410
333	13 01 24.11	27	+07 20 03.8	3.9	47	8	21	98B	311.9	68.7	MB	+071704	2.6	119745	2.6	+10264	36	1597	59	BD+07 2608	
334	13 10 11.69	22	-01 29 35.1	2.7	108	18	21	8A	313.9	60.7	MB	-011725	1.2	119219	1.9	00229	37	1604	162	BD+00 2668	114782
335	13 10 52.00	47	+09 03 38.8	4.4	6	1	43	8A	319.8	70.9	MC	+091595	2.1	119821	.7					BD+09 2730	
336	13 11 24.36	16	-01 43 13.4	4.3	14	2	7	89C	315.8	63.8	K2	+011536	2.1	119822	1.7					BD+02 2646	114960
337	13 11 29.66	16	-02 32 34.0	2.8	1156	129	43	A.A	314.1	59.6	MC	-020791	.7	119835	1.7	00230	5	1606	28	BD-02 3653	114961
338	13 12 30.71	18	+04 46 51.9	3.5	56	6	13	98B	316.0	66.7	MB	+041690	1.2	119837	2.3	00231	25			BD+05 2728	115044
339	13 13 16.07	41	+08 13 01.2	2.7	7	1	13	9A	320.8	70.0	K0	+081631	1.6	119837	2.3					BD+08 2690	115045
340	13 13 52.59	39	+06 46 05.8	4.8	68	7	42	9AB	320.1	68.5	MB	+061603	1.3	119843	.8	+10268	25	1610	248	BD+07 2627	115322
341	13 14 16.72	41	+09 41 08.8	3.5	11	1	44	..A	322.8	71.3	G0	+091615	1.6	119847	1.6					BD+10 2531	115323
342	13 15 04.58	20	+05 43 56.6	3.6	168	28	103	8ABA	320.1	67.5	MA	+051815	.7	119855	.7	+10270	38	1611	45	BD+06 2722	115521
343	13 15 04.58	53	+08 54 25.5	5.1	5	1	20	AC	324.0	70.4	K2	+081637	.7	119878	1.2					BD+09 2742	115531
344	13 17 24.13	41	+03 44 57.1	4.0	5	1	10	CA	324.1	70.2	K0	+081639	1.1	119892	1.1	00232	41			BD+09 2743	115535
345	13 19 28.97	34	+03 01 05.8	3.7	31	6	13	98B	321.0	64.6	MA	+031704	3.0	119902	1.2					BD+03 2762	116207
346	13 26 41.32	31	+04 07 44.4	3.8	10	1	9	AB	325.8	65.1	K2	+041710	3.0	119951	2.0					BD+04 2751	117285
347	13 27 26.68	45	+06 16 14.5	2.9	5	0	8	..A	328.1	67.0	K0	+061626	1.0	119961	2.5					BD+06 2750	117405
348	13 27 29.35	32	+07 26 11.0	4.7	21	3	60	98B	329.3	68.1	K5	+071737	1.4	119962	1.4	+10272	8			BD+07 2655	117405
349	13 29 21.40	22	-05 59 55.3	3.2	200	35	72	993A	320.8	55.2	MA					-10288	5	1631	46	BD-05 3714	117675
350	13 30 23.11	24	-06 56 19.3	2.5	173	65	72	87F	320.8	54.2	MD					-10290	17	1633	78	BD-06 3837	117633
351	13 32 07.99	15	-00 20 23.2	4.8	16	1	6	98B	325.2	60.4	A2								BD+00 3076	118098	
352	13 32 56.11	30	-04 08 03.1	5.1	14	3	8	..A	323.3	56.7	K5	+081662	1.4	120026	1.7	+10273	33			BD+03 3501	118218
353	13 33 22.12	31	+08 32 49.5	3.3	78	10	114	899C	334.2	68.4	MS	+081662	1.4	120026	1.7	+10273	33			BD+03 3501	118218
354	13 35 11.27	09	+02 38 09.6	2.9	9	1	6	9B	329.0	62.9	K0	+021681	1.1	120042	1.4					BD+03 3799	118578
355	13 40 32.10	13	+03 47 22.5	3.7	19	2	11	89..	332.8	63.4	K0	+031731	.7	120082	.7	00236	28			BD+04 2775	119425
356	13 45 39.78	28	+03 04 08.0	4.7	5	1	16	AC	340.4	66.5	MS	+031679	.8							BD+08 2766	
357	13 47 53.60	24	+05 44 40.2	4.3	8	1	5	78B	333.5	64.2	K0	+051868	.3	120132	1.2					BD+06 2800	120602
358	13 49 15.79	20	-03 25 45.1	3.2	124	23	30	7789	330.6	55.9	MB					00237	21	1653	49	BD-02 3749	120306
359	13 52 07.55	18	-01 15 23.0	3.8	17	1	3	..A	333.5	57.6	K0	-011795	5.8	139613	5.9	00239	8			BD-00 2758	120399
360	13 54 29.44	28	+06 49 05.5	4.7	29	3	51	9A18	343.0	64.2	MS	+061663	1.1	120191	.7	+10275	21			BD+07 2720	121713
361	13 55 32.13	36	+07 42 21.2	4.4	31	5	93	998S	344.7	64.8	MA	+071782	1.0	120197	1.7	+10276	22			BD+08 2784	121560
362	13 59 57.61	44	+09 32 24.0	3.3	11	1	76	..A	349.1	65.7	K0	+091672	1.2	120232	1.7					BD+10 2616	122587
363	14 00 05.01	45	+08 08 14.6	5.2	9	2	44	79B	347.4	64.4	MS	+081703	1.9							BD+08 2809	
364	14 01 07.59	39	+07 47 08.8	5.5	6	1	12	AA	347.4	64.0	K0	+071790	.7	120261						BD+08 2810	122744
365	14 05 24.98	26	+08 19 27.8	4.6	5	0	4	..A	350.0	63.7	K5	+081712	1.4	120399	1.4					BD+08 2816	123497
366	14 06 54.74	33	+05 11 59.2	5.9	6	0	7	..A	346.4	61.1	K	+051902	2.5	120314	1.7					BD+05 2947	123761
367	14 07 30.81	49	+07 34 42.9	5.6	7	1	15	78B	349.8	62.8	MS	+071802	2.0	120322	1.1					BD+08 2823	
368	14 11 39.66	51	+08 06 49.6	3.5	5	1	15	..A	352.3	62.5	K5	+081722	2.5	120357	2.8					BD+08 2829	124549
369	14 12 21.57	16	+03 34 05.8	4.5	57	10	7	..A	346.5	59.0	MA	+031768	1.4	120364	1.6	00239	13			BD+04 2841	124461
370	14 13 22.99	14	-05 45 58.3	3.4	20	2	6	..A	337.7	51.1	F5					-10302	4			BD-05 3343	124550
371	14 14 41.83	24	+07 32 48.4	2.4	8	3	8	7E	352.6	61.6										BD+09 2876	
372	14 17 05.13	52	+09 01 23.8	4.6	5	0	37	8A	355.7	62.3	K0	+091698	3.6	120410	1.4					BD+07 2772	125753
373	14 18 55.87	28	+06 40 15.2	5.5	8	1	10	9C	353.0	60.3	K	+061706	1.8	120410	1.4					BD+08 2858	126271
374	14 21 50.27	36	+08 18 39.1	3.9	13	2	74	9A	356.3	60.9	K5	+061712	.3	120455	1.7					BD+07 2781	
375	14 23 25.67	29	+06 41 56.0	4.7	15	2	46	9A	354.6	59.5	M2									BD+06 2891	126947
376	14 24 45.79	24	+04 54 05.4	3.9	107	37	67	5C	352.7	58.0	MA	+051930	1.4	120460	1.4					BD+06 2891	126947
377	14 25 58.67	28	+05 54 14.7	4.8	20	2	40	9A	354.4	58.5	MA									BD+06 2891	126947
378	14 26 02.92	24	-06 40 38.2	3.0	52	5	7	98B	341.1	48.6	K5	+031791	2.5	139957	2.1	-10306	14	1711	187	BD-06 4009	126927
379	14 26 55.22	19	+03 56 33.7	3.0	17	1	10	..A	352.0	57.0	K5	+031791	2.5	139957	2.1	-10306	14	1711	187	BD-06 4009	126927
380	14 28 16.97	27	+04 59 35.5	4.6	23	3	29	9A	354.0	57.4	K2	+041792	.7	120504	.3	00244	28			BD+05 2896	127032
381	14 29 42.19	14	+04 21 45.7	3.9	21	3	14	9A	353.7	56.7	MA	+041794	1.8	120516	.7	00245	18			BD+04 2878	127618
382	14 34 42.74	24	+04 41 02.7	5.0	11	1	10	..A	355.7	56.1	M5	+041790	1.4							BD+05 2897	
383	14 35 23.56	22	+03 44 15.7	5.5	29	3	16	AA	354.7	49.9	MA					00246	28			BD-02 3873	128684
384	14 35 52.53	28	-03 23 43.4	4.5	26	4	7	AC	347.1	49.9	MA	+071842	.3	120591	.3	00247	5			BD+07 2822	129005
385	14 37 35.49	35	+07 33 19.4	4.0	8	2	21	9C		57.5	K5										

EIC	R.A.1950	SORA	DEC.1950	SODC	FL	SDFL	OBS	1234	L	B	TYPE	AGK3	EAG	SAD	ESA	THSS	ETM	AFGL	EAF	....DM....	MD
366	14 39 11.10	.33	+08 22 27.8	3.3	25	3	98	.98	2.0	57.8	G5	+081774	.3	120601	5	+10281	16			BD+08 2903 129312	
367	14 39 22.03	.16	-03 18 36.5	4.5	24	5	7	.88	348.2	49.4	MSP		140081	3.3		00248	3				
368	14 40 25.12	.12	-05 26 36.9	4.1	18	1	6	.A..	346.6	47.5	F5		140090	3.7						BD+05 3936 149502	
369	14 40 08.42	.53	+09 22 09.4	5.0	5	0	10	.A..	3.2	57.0	K0	+081778	2.9	120643	2.4					BD+08 2914 130005	
390	14 44 13.59	.35	+07 29 24.0	4.4	34	5	83	.89B.	2.3	56.2	MB	+071854	1.4	120655	1.9	+10282	22			BD+07 2841 130218	
391	14 44 33.59	.21	+05 05 38.4	4.8	32	3	39	.AA.	359.2	54.6	MB	+051959	.8	120658	.3	+10283	53			BD+05 2920 130254	
392	14 46 01.10	.07	+01 18 53.6	3.4	11	2	4	.8C.	355.0	51.7	K0										
393	14 51 11.08	.22	+06 26 41.2	3.6	8	1	12	.99C.	2.8	54.2	K5	+061752	1.2	120719	.3					BD+06 2957 131476	
394	14 52 54.50	.31	+06 59 10.3	5.2	20	3	62	.98	4.0	54.2	K5	+061756	1.2	120739		+10285	13			BD+07 2865 131786	
395	14 52 59.01	.40	+07 57 47.8	4.8	17	3	0	.A..	5.3	54.8	K5	+071872	1.4	120740	1.4					BD+08 2941 131785	
396	14 54 59.18	.05	+00 01 58.0	2.8	18	2	8	.98	356.1	49.2	K0	+001803	.8	120758	.5	00254	40			BD+00 3277 132132	
397	14 56 08.37	.23	-00 21 19.8	4.5	17	3	7	.88	356.0	48.7	K0										
398	14 56 53.01	.21	+04 45 57.9	5.2	63	11	36	.A8B.	2.1	52.1	MA	+041839	.3	120774	.7	00256	3	1745	140	BD+05 2954 132525	
399	14 57 41.65	.20	+03 27 33.4	7.2	12	1	19	.9AB.	.8	51.1	M5	+071832	.8							BD+03 2865	
400	14 57 51.16	.35	+07 50 44.1	4.2	10	2	47	.98B.	6.4	53.8	K2	+071831	.7	120785	1.7	00257	9			BD+08 2955 132701	
401	14 58 43.62	.13	-02 33 27.3	3.2	96	18	6	.8B.	354.4	46.7	K5	-020898	2.9	140276	1.2					BD+02 3928 132833	
402	14 58 14.94	.19	+00 03 24.4	3.0	56	3	7	.AA.	357.3	48.5	K0	+001809	2.4	120788	3.3	00258	17			BD+00 3297 132933	
403	14 59 23.28	.26	-08 08 54.2	3.7	12	2	36	.A.	349.3	42.5	G5									BD+07 3943 133335	
404	15 00 21.98	.21	+02 17 12.8	3.5	38	11	7	.AB.	.1	49.8	K0									BD+02 2905 133165	
405	15 02 08.75	.34	-07 49 46.2	3.1	28	4	14	.A59	350.3	42.3	MB									BD+07 3955 133463	
406	15 04 35.06	.21	+02 33 14.4	3.1	16	2	7	.AA.	1.5	49.2	K2	+021812	1.0	120845	.3					BD+02 2915 133948	
407	15 04 52.98	.39	+09 08 58.9	2.9	14	2	199	.98B.	9.3	53.1	K5	+091781	2.2	120847	2.5					BD+09 2949 134012	
408	15 05 05.64	.24	+06 27 36.0	5.4	5	0	7	.A..	6.3	51.5	K0	+061777	3.0	120849	3.0					BD+06 3000 134028	
409	15 05 11.06	.28	+05 41 22.9	5.7	8	2	10	.7C.	5.4	51.0	G5	+051991	2.3	120852	1.7	00260	27			BD+06 3001 134047	
410	15 05 58.07	.34	-00 49 18.4	5.0	34	5	6	.AB.	358.1	46.7											
411	15 08 30.71	.18	+03 22 19.2	4.6	14	2	22	.98	3.4	49.0											
412	15 09 01.94	.19	-05 49 20.6	.9	14	2	5	.A..	353.8	42.6											
413	15 10 03.45	.34	-00 11 39.4	4.7	17	3	12	.9C.	359.7	46.3	K5	-001993	1.2	140379	1.7					BD+00 3318 134945	
414	15 10 52.89	.35	+09 25 49.0	4.8	5	0	10	.A..	10.3	51.5	K5	+081823	2.8	120900	3.2					BD+08 2996 135149	
415	15 11 26.06	.21	-01 42 00.3	4.8	27	8	9	.8D.	358.5	45.1	MA	-011900	2.1	140398	2.1	00261	25			BD+01 3036 135205	
416	15 12 11.80	.24	-05 19 00.8	3.7	18	0	5	.A..	355.1	42.4	K2									BD+04 3340 135367	
417	15 12 21.79	.23	-02 13 46.5	3.0	115	17	50	.8AA	359.2	44.5	MB	-020918	140410	.3	00262	6	1756	153		BD+01 3041 135386	
418	15 12 41.92	.27	+05 07 27.1	5.3	24	4	40	.93	6.5	49.2	K0									BD+05 2985 135482	
419	15 13 25.41	.39	+06 38 55.3	3.9	11	1	26	.98	8.5	50.0	K0	+061790	.3	120923	1.7					BD+07 3926 135615	
420	15 13 30.76	.26	+02 21 05.0	3.4	16	1	12	.98	3.4	47.3	M5	+021826								BD+02 2940	
421	15 15 49.51	.32	+01 07 14.5	3.5	10	3	7	.8C.	2.5	46.1	K0	+011713	1.5	120938	1.0					BD+01 3959 136027	
422	15 15 51.86	.19	-00 16 45.1	4.0	29	3	13	.AC.	1.0	45.2	K5	-002002	1.7	140444	2.8	00263	21			BD+00 3337 136028	
423	15 16 46.10	.18	+01 56 56.0	5.0	8	0	5	.A..	3.7	46.5	G0	+011716	3.0	120946	2.9					BD+02 2844 136202	
424	15 18 28.58	.19	-05 38 42.3	4.2	14	1	9	.93	356.2	41.1	K2									BD+05 4057 136479	
425	15 18 28.96	.11	+00 53 42.3	5.4	23	0	8	.A..	2.9	45.5	K0	+001844	.3	120955	.3	00264	30			BD+01 3067 136514	
426	15 21 11.30	.18	+02 11 44.5	3.2	14	1	9	.AC.	5.0	45.7	MA	+021837	1.0	120975	.3					BD+02 2954 137031	
427	15 21 34.35	.41	+09 04 53.7	3.1	9	2	73	.9C.	13.4	49.7	K5	+031807	.8	120977	2.4					BD+09 3031 137127	
428	15 22 19.41	.24	-02 03 34.2	3.3	23	29	56	.9A9	6	42.8	MB	-020929	.5	140517	1.0	00265	22	1769	61	BD+01 3054 137227	
429	15 22 27.43	.20	-05 44 34.0	4.3	20	3	5	.A.	357.0	40.3	MA									BD+05 4070 137440	
430	15 26 13.36	.15	+04 00 00.3	5.4	17	3	18	.85	8.1	45.8											
431	15 27 58.22	.23	+05 25 53.8	7.7	6	1	9	.8C..	10.1	46.3	K5	+052027	.3	121034	.3	00267	45			BD+05 3025 138199	
432	15 28 19.34	.28	-04 00 57.2	1.7	15	0	6	.A..	.0	40.4											
433	15 29 48.76	.30	-01 36 51.1	2.8	15	2	6	.9C.	2.7	41.7	K5	-011923	3.0	140592	4.3					BD+01 3066 138470	
434	15 29 53.85	.28	+07 04 41.1	4.6	9	2	35	.95C.	12.5	46.8											
435	15 29 54.45	.16	+03 48 32.7	5.1	49	12	25	.8C.	8.7	45.0	K0									00268	6 1777 129
436	15 30 23.11	.25	-01 01 04.8	5.2	19	2	6	.98	3.5	41.9											
437	15 34 07.03	.17	-02 39 43.2	3.9	11	0	6	.A..	2.6	40.2	M1	-011925	1.0	140596	.3					BD+00 2982 138562	
438	15 34 13.19	.17	-05 51 46.8	2.3	9	1	8	.AB.	359.5	39.1	K2									BD+05 4117 139178	
439	15 38 37.62	.15	-03 50 03.4	5.1	10	2	6	.8C.	2.4	38.6											
440	15 41 01.39	.20	-01 33 09.7	3.6	170	31	70	.888	5.1	39.5										00269	12 1793 38



EIC	R. 1950	SCRA	DEC 1950	SDDC	FL SDPL	OBS	1234	L	B	TYPE	AGK3	EAG	SAO	ESA	1MSS	ETH	AFGL	ENF	DM	MD
441	15 41 34.41	30	+02 32 50.2	5.0	20	3	10	AA	9.6	41.9	M2	+081875	7	121156	5	+10293	30	1794	130	ED+08 3075
442	15 41 45.35	35	+08 17 52.8	3.7	18	3	83	78B	16.2	45.0	K0	+081876	3.9	121161	4.3					ED+08 3076
443	15 41 45.35	35	+08 17 52.8	3.7	18	3	83	78B	16.2	45.0	K0	+081876	3.9	121161	4.3					ED+08 3076
444	15 42 05.70	32	+06 16 09.4	3.9	5	0	10	AA	16.3	43.9	K0	+081876	3.9	121161	4.3					ED+08 3076
445	15 43 45.71	36	+06 15 54.7	6.5	8	1	9	AA	14.2	44.5	K2	+081876	3.9	121161	4.3					ED+08 3076
446	15 44 00.26	34	+07 30 27.3	4.2	18	2	73	98B	15.7	44.1	G0	+081876	3.9	121161	4.3					ED+08 3076
447	15 44 54.52	27	+01 42 01.0	4.2	9	2	6	8C	9.3	40.7	K0	+081876	3.9	121161	4.3					ED+08 3076
448	15 45 13.67	17	+02 09 57.6	4.0	12	1	6	9B	5.4	38.3	M5	+081876	3.9	121161	4.3					ED+08 3076
449	15 45 18.81	31	+04 27 07.5	5.1	5	0	7	AA	12.4	42.2	K0	+081876	3.9	121161	4.3					ED+08 3076
450	15 45 20.49	33	+00 50 28.6	6.0	22	3	14	AA	8.5	40.1	M2	+081876	3.9	121161	4.3					ED+08 3076
451	15 46 18.21	34	+00 50 56.4	3.7	27	3	12	9B	6.9	38.9	MA	+081876	3.9	121161	4.3					ED+08 3076
452	15 46 19.07	30	+05 33 16.9	4.4	41	5	59	9AA	13.8	42.6	MB	+081876	3.9	121161	4.3					ED+08 3076
453	15 47 45.86	17	+02 20 49.5	4.7	20	2	12	AA	10.5	40.5	K0	+081876	3.9	121161	4.3					ED+08 3076
454	15 48 19.38	22	+04 37 35.8	5.9	12	2	25	9B	13.1	41.7	A2	+081876	3.9	121161	4.3					ED+08 3076
455	15 48 45.83	31	+08 01 12.0	4.1	6	0	15	AA	17.1	43.4	K5	+081876	3.9	121161	4.3					ED+08 3076
456	15 51 56.78	36	+05 26 22.2	4.1	5	1	7	AC	14.7	41.3	K0	+081876	3.9	121161	4.3					ED+08 3076
457	15 52 12.99	25	+04 52 26.7	4.3	15	1	18	AB	14.1	41.0										ED+08 3076
458	15 52 17.83	24	+03 47 36.2	3.9	16	1	8	9B	5.1	35.9										ED+08 3076
459	15 52 18.02	21	+05 43 57.0	4.8	18	2	49	9AA	15.1	41.4	M5	+081876	3.9	121161	4.3					ED+08 3076
460	15 52 21.91	12	+02 01 53.0	2.0	13	2	5	9C	6.9	37.0	M2	+081876	3.9	121161	4.3					ED+08 3076
461	15 52 24.28	49	+08 43 48.7	4.0	5	0	31	AA	18.6	42.9	K5	+081876	3.9	121161	4.3					ED+08 3076
462	15 52 30.21	18	+03 50 16.0	3.6	37	3	14	9AA	15.1	35.9										ED+08 3076
463	15 53 13.29	31	+05 51 13.6	5.5	5	0	12	CA	15.4	41.3	K5	+081876	3.9	121161	4.3					ED+08 3076
464	15 53 39.93	17	+03 04 49.8	5.3	5	0	16	AA	18.0	42.3	K2	+081876	3.9	121161	4.3					ED+08 3076
465	15 54 19.29	18	+00 48 43.2	4.6	14	2	7	9A	6.5	37.3	K5	+081876	3.9	121161	4.3					ED+08 3076
466	15 57 15.35	29	+02 09 50.0	5.4	15	1	11	AB	7.6	35.9										ED+08 3076
467	15 57 28.96	20	+00 45 52.2	2.5	16	1	9	9B	10.6	37.6	K5	+081876	3.9	121161	4.3					ED+08 3076
468	15 58 04.29	26	+04 51 58.3	5.5	7	1	7	AA	15.1	39.7	K5	+081876	3.9	121161	4.3					ED+08 3076
469	15 59 21.93	39	+04 33 58.6	5.3	12	2	18	8C	14.9	39.5	K0	+081876	3.9	121161	4.3					ED+08 3076
470	15 59 11.20	43	+09 03 05.0	3.1	5	0	18	AA	20.1	41.6	K5	+081876	3.9	121161	4.3					ED+08 3076
471	15 59 59.80	33	+08 21 23.4	4.0	9	0	27	AA	2.3	31.6	K5	+081876	3.9	121161	4.3					ED+08 3076
472	16 01 12.60	39	+08 59 02.0	3.7	5	0	14	AA	20.2	41.4	K5	+081876	3.9	121161	4.3					ED+08 3076
473	16 01 22.91	20	+03 51 50.4	5.4	15	2	21	9B	14.6	39.5	MA	+081876	3.9	121161	4.3					ED+08 3076
474	16 01 51.76	43	+06 08 49.5	6.4	6	1	8	AA	17.2	39.6	K0	+081876	3.9	121161	4.3					ED+08 3076
475	16 03 19.58	20	+06 08 19.4	4.8	9	1	6	9B	5.1	32.4	K0	+081876	3.9	121161	4.3					ED+08 3076
476	16 04 23.10	18	+03 44 37.3	2.5	47	0	8	AA	7.4	33.6	MA	+081876	3.9	121161	4.3					ED+08 3076
477	16 05 59.37	10	+01 24 18.3	1.8	56	11	5	8B	10.0	34.6										ED+08 3076
478	16 06 03.11	28	+08 39 55.8	2.7	156	23	403	93BA	20.7	39.9	MB	+081876	3.9	121161	4.3					ED+08 3076
479	16 06 11.66	26	+08 44 39.4	2.7	159	23	460	93AA	20.8	40.0	MB	+081876	3.9	121161	4.3					ED+08 3076
480	16 06 28.72	20	+03 35 06.3	4.7	28	2	21	AA	15.2	37.3	K5	+081876	3.9	121161	4.3					ED+08 3076
481	16 06 43.56	32	+06 30 50.7	5.0	10	1	24	AA	19.4	39.7	G5	+081876	3.9	121161	4.3					ED+08 3076
482	16 06 45.79	30	+03 52 59.5	5.2	6	0	7	AA	15.5	37.4										ED+08 3076
483	16 07 13.08	15	+03 20 09.2	3.7	47	3	8	AA	8.3	33.2	K0	+081876	3.9	121161	4.3					ED+08 3076
484	16 08 22.48	35	+07 54 28.0	3.9	14	2	91	9AB	20.2	39.1	MA	+081876	3.9	121161	4.3					ED+08 3076
485	16 10 46.65	33	+05 08 50.6	5.5	40	6	46	9B	17.6	37.2	K0	+081876	3.9	121161	4.3					ED+08 3076
486	16 11 03.02	16	+03 34 04.8	3.1	902	109	56	9AA	8.8	32.2	MA	+081876	3.9	121161	4.3					ED+08 3076
487	16 11 45.90	32	+05 01 37.5	5.0	10	2	24	8B	18.7	37.4	G5	+081876	3.9	121161	4.3					ED+08 3076
488	16 12 16.72	37	+07 58 57.7	3.7	10	1	60	99B	20.9	38.3	K0	+081876	3.9	121161	4.3					ED+08 3076
489	16 13 11.28	14	+02 16 05.1	1.7	33	3	5	9B	10.4	32.6										ED+08 3076
490	16 15 40.34	25	+04 34 17.7	3.1	119	15	59	9AA	8.6	30.8	K0	+081876	3.9	121161	4.3					ED+08 3076
491	16 16 08.20	40	+07 22 49.8	3.9	8	2	25	9E	20.8	37.1	K5	+081876	3.9	121161	4.3					ED+08 3076
492	16 17 46.24	33	+05 59 02.0	5.9	3	1	9	9C	19.5	36.1										ED+08 3076
493	16 18 42.09	21	+07 34 56.2	3.3	27	5	12	9D	6.3	28.4										ED+08 3076
494	16 19 44.32	22	+02 59 27.9	2.6	8	3	5	7J	16.7	34.2	K2	+081876	3.9	121161	4.3					ED+08 3076
495	16 20 17.75	22	+07 05 34.0	2.5	42	4	7	AB	7.0	28.4	MB	+081876	3.9	121161	4.3					ED+08 3076

EIC	R.A.1950	SORA	DEC.1950	SDDC	FL	SDFL	OBS	1234	L	B	TYPE	AGK3	EAG	SAO	ESA	TMSS	ETH	AFGL	EAF	....DM....	HD
496	16 21 12.07	.421	-07 47 34.8	3.9	12	2	4	.8C.	6.5	27.8	MA	-020988	2.8	141155	4.6	00263	10			ED-07 4276 147739	
497	16 22 15.69	.42	-02 21 29.8	3.7	33	8	4	.89.	11.8	30.7	MS	-021952	4.3	121555	4.1					ED-02 4180 147829	
498	16 23 47.73	.41	-09 37 32.5	2.5	5	0	17	.A..	23.3	36.1	K0	+081935	7.7	121614	1.8	10340	12	1861	96	ED-08 3194 148229	
499	16 25 01.43	.25	-07 29 11.4	3.4	175	29	95	.98A	17.5	33.0	MA	+021935	7.7	121614	1.8	10340	12	1861	96	ED-07 4292 148349	
500	16 25 01.53	.25	-02 50 51.9	4.1	42	6	32	.AA.	15.4	31.7	K5	+021935	7.7	121614	1.8	10340	12	1861	96	ED-03 3199 148350	
501	16 26 00.86	.18	-00 46 27.8	3.9	41	6	13	.AB.	15.4	31.7	K2	+021935	7.7	121614	1.8	10340	12	1861	96	ED-00 3529 148350	
502	16 26 08.59	.20	-00 09 51.4	4.4	13	2	12	.9C.	14.9	31.3	K5	+021935	7.7	121614	1.8	10340	12	1861	96	ED-00 3530 148351	
503	16 27 21.16	.41	-07 51 25.9	4.2	8	1	10	.A..	23.0	34.9	K0	+021935	7.7	121614	1.8	10340	12	1861	96	ED-00 3530 148351	
504	16 27 25.94	.26	-00 01 08.4	4.0	33	3	14	.AB.	14.9	30.9	MB	-002120	1.8	141203	1.7	00287	14			ED-00 3530 148351	
505	16 29 35.61	.19	-01 31 53.7	3.2	19	2	8	.9C.	13.7	29.7	K2	+021935	7.7	121614	1.8	10340	12	1861	96	ED-00 3530 148351	
506	16 31 50.78	.40	-08 02 49.5	3.8	11	3	9	.80.	8.0	25.5	K2	+021935	7.7	121614	1.8	10340	12	1861	96	ED-07 4324 149383	
507	16 32 03.19	.42	-08 02 49.5	3.8	11	3	9	.80.	8.0	25.5	K2	+021935	7.7	121614	1.8	10340	12	1861	96	ED-07 4324 149383	
508	16 32 44.54	.26	-02 53 06.3	3.6	11	1	12	.AA.	18.6	31.3	M2	+021958	7.7	121711	1.7					ED-00 3529 148350	
509	16 34 13.53	.33	-05 07 02.2	5.0	34	3	39	.9A.	21.1	32.1	K0	+052157	7.7	121725	3.2	+10308	10			ED-05 3234 149773	
510	16 35 05.75	.22	-05 22 32.5	5.2	9	1	9	.AB.	21.5	32.1	K0	+052161	3.9	121738	3.2					ED-05 3240 149908	
511	16 37 43.41	.57	-08 36 47.5	5.9	5	0	21	.AA.	25.2	33.0	K5	+072085	121772	.8						ED-07 3219 150343	
512	16 37 48.04	.35	-07 43 19.5	4.5	10	1	43	.9B.	24.3	32.6	K5	+072085	121772	.8						ED-07 3219 150343	
513	16 40 17.97	.12	-03 33 17.2	4.1	15	3	5	.A..	13.5	26.3	K5	+072085	121772	.8						ED-07 3219 150343	
514	16 40 34.34	.18	-04 03 21.9	4.5	11	0	5	.A..	13.0	26.0	K5	+072085	121772	.8						ED-07 3219 150343	
515	16 41 52.24	.44	-07 24 28.8	5.2	6	0	10	.A..	24.5	31.5	K2	+072092	5.1	121823	5.8					ED-03 3982 150765	
516	16 42 25.36	.11	-00 31 23.8	3.8	17	3	6	.8C.	16.7	27.5	K5	-002147	1.4	141343	1.7					ED-07 3233 151000	
517	16 42 34.12	.22	-02 59 39.0	3.0	188	34	58	.989	14.3	26.1	MB	-002147	1.4	141343	1.7					ED-00 3176 151046	
518	16 43 18.42	.28	-03 55 21.3	2.8	30	3	5	.A..	13.6	25.5	K2	+082001	7.7	121843	1.4	00291	11	1887	97	ED-02 4242 151061	
519	16 43 25.51	.27	-08 40 19.4	3.2	81	18	187	.987	28.0	31.8	K2	+082001	7.7	121843	1.4	00291	11	1887	97	ED-02 4242 151061	
520	16 47 13.67	.27	-06 33 31.6	4.7	11	2	21	.88B.	24.4	30.0	MA	+081973	7.7	121890	1.0	+10311	20			ED-08 3271 151217	
521	16 49 00.38	.38	-08 23 47.7	3.8	5	0	12	.A..	26.5	30.4	MA	+081973	7.7	121890	1.0					ED-08 3271 151217	
522	16 50 20.44	.23	-05 29 21.1	5.0	16	3	24	.7B.	23.7	28.8	K5	+082040	2.5	121983	2.2	-10354	26			ED-06 3298 151840	
523	16 51 36.21	.35	-06 37 50.5	4.3	18	0	6	.A..	11.3	22.3	K5	+082040	2.5	121983	2.2	-10354	26			ED-06 4513 152556	
524	16 51 48.50	.15	-07 28 48.7	3.0	14	2	7	.A..	11.6	21.8	K0	+082040	2.5	121983	2.2	-10354	26			ED-05 4374 152601	
525	16 51 54.66	.10	-06 04 26.7	3.5	19	1	5	.A..	12.9	22.5	K0	+082040	2.5	121983	2.2	-10354	26			ED-06 3318 153033	
526	16 54 24.59	.31	-06 34 42.2	4.4	11	2	33	.9B.	25.3	28.4	K0	+082040	2.5	121983	2.2	-10354	26			ED-06 3322 153113	
527	16 54 53.49	.28	-08 17 16.4	5.1	16	2	34	.9B.	25.1	28.2	K0	+082040	2.5	121983	2.2	-10354	26			ED-06 3322 153113	
528	16 55 50.39	.40	-08 20 44.5	4.0	9	1	52	.99C.	27.3	28.9	K2	+082040	2.5	121983	2.2	-10354	26			ED-06 3322 153113	
529	16 56 54.14	.21	-07 32 21.1	1.8	19	1	6	.A..	12.3	20.7	K2	+082040	2.5	121983	2.2	-10354	26			ED-06 3322 153113	
530	16 57 10.34	.34	-08 06 03.2	4.0	5	0	8	.A..	27.2	28.5	K2	+082040	2.5	121983	2.2	-10354	26			ED-06 3322 153113	
531	16 57 55.46	.38	-05 05 52.0	4.0	13	1	16	.9B.	24.3	26.9	M2	+052206	.5							ED-06 3322 153113	
532	16 58 07.79	.41	-08 51 55.8	3.4	9	2	115	.83B.	28.1	28.6	K0	+052206	.5							ED-06 3322 153113	
533	16 58 25.07	.15	-04 08 59.6	3.6	99	15	9	.9B.	15.6	23.2	K0	+052206	.5							ED-06 3322 153113	
534	16 58 31.29	.12	-06 57 19.8	5.4	13	3	6	.A..	13.0	20.7	K2	+052206	.5							ED-06 3322 153113	
535	16 58 52.55	.43	-07 30 03.2	3.2	17	2	19	.9E.	28.1	27.4	MA	+072132	1.4	122008	1.7					ED-06 4513 153468	
536	16 59 20.42	.26	-06 40 50.8	4.1	17	2	51	.9E.	28.1	27.4	MA	+072132	1.4	122008	1.7					ED-07 3287 153768	
537	17 00 32.92	.29	-06 12 12.6	5.5	10	2	10	.8B.	25.7	26.9	M2	+061994	2.1			+10317	38			ED-06 3326 153869	
538	17 03 32.25	.35	-04 49 01.2	4.3	14	1	17	.9A.	24.4	26.2	MA	+042050	1.9	122039	1.9					ED-06 3340 154052	
539	17 03 32.25	.14	-03 50 02.7	4.6	34	4	13	.9A.	23.8	25.2	MA	+042050	1.9	122039	1.9					ED-03 3317 154052	
540	17 03 29.46	.36	-05 06 14.7	5.9	9	1	12	.9B.	25.0	25.7	K2	+052216	.7	122059	1.1					ED-03 3317 154052	
541	17 03 43.20	.35	-09 41 21.1	3.1	13	3	147	.C6AA	28.6	27.3	K2	+052216	.7	122059	1.1					ED-05 3322 154543	
542	17 06 15.95	.36	-08 29 35.8	3.9	5	0	9	.8A..	28.6	26.6	K0	+052216	.7	122059	1.1					ED-06 3347 154611	
543	17 09 20.23	.36	-07 57 14.0	4.3	9	1	23	.9B.	28.6	25.7	K0	+072154	1.9	122164	2.2					ED-08 3367 155500	
544	17 09 24.31	.32	-02 14 44.5	3.1	10	0	6	.8A.	23.1	23.0	MA	+052045	3.8	122166	3.7					ED-02 3262 155502	
545	17 11 16.15	.22	-05 51 56.1	4.4	13	2	34	.8A.	26.8	24.4	K5	+052238	.5	122195	1.7	+10321	63			ED-05 3352 155819	
546	17 11 55.91	.23	-08 59 26.5	2.5	101	39	350	.06.	23.9	25.6	MA	+052238	.5	122195	1.7	+10321	63			ED-05 3352 155819	
547	17 13 24.16	.32	-06 53 52.0	3.2	10	1	20	.9B.	28.1	24.4	K2	+062022	1.4	122221	1.5					ED-07 3324 156179	
548	17 13 56.47	.19	-04 46 29.6	5.2	20	7	29	.C6A	26.1	23.3	K0	+062022	1.4	122221	1.5					ED-06 3361 156485	
549	17 15 07.63	.29	-06 48 52.2	3.5	9	1	22	.8B.	26.2	23.9	K0	+062024	2.0	122245	1.0					ED-04 4262 156657	
550	17 16 18.52	.10	-04 15 23.4	2.1	23	3	4	.9B.	18.0	18.3	K5	+062024	2.0	122245	1.0					ED-04 4262 156657	

EIC	R.A.1950	SDRA	DEC.1950	SDDC	FL	SDFL	OBS	1234	L	B	TYPE	AGK3	EAG	SAO	ESA	THSS	ETM	AFGL	EAF	....DM.....	HO			
551	17 17 15.07	.16	+02 11 22.2	2.7	331	44	64	.9AA	24.0	21.3	MB	+022068	1.0	122279	1.0	00301	11	1955	57	ED+02	3296	156560		
552	17 20 22.29	.13	+00 55 10.9	3.3	25	3	9	.9C	23.0	20.0	MA	+020665	1.5	122331	1.2	00302	39	1960	118	ED+01	3425	157398		
553	17 21 32.44	.32	+05 29 59.6	3.8	11	1	21	.AAD	27.7	21.9	K	+052260	.7	122343	1.4	00303	19	2000	62	ED+05	3428	157603		
554	17 21 33.69	.33	+08 53 51.0	2.6	18	2	343	.98E	31.0	23.4	K2	+082100	1.0	122346	1.8	+10326	38			ED+08	3405	157617		
555	17 21 34.27	.38	+08 38 59.2	3.4	7	1	35	.98E	30.8	23.3	K0	+082101	1.4	122347	1.4					ED+08	3404	157618		
556	17 21 54.72	.38	+08 08 59.2	6.6	5	0	9	.A.A	29.3	22.6	K5	+082104	.7	122366	1.2	+10327	23			ED+09	3308	157823		
557	17 22 55.46	.28	+08 53 05.8	2.4	18	2	237	.98E	31.2	23.2	K5	+082104	.7	122366	1.2					ED+07	3308	157823		
558	17 23 54.07	.27	+07 33 16.8	3.6	18	1	16	.9CA	30.1	22.4	A0	+072194	1.0	122381	.5	00304	2	1969	42	ED+04	3422	157978		
559	17 25 01.82	.21	+04 10 56.2	3.4	118	17	86	.AAA	26.8	20.8	K0	+042129	.3	122405		+10328	15			ED+03	3413	158228		
560	17 25 19.94	.30	+08 28 57.3	3.3	101	14	273	.A9AB	31.0	22.4	MA	+082112	.5	122405		+10329	53							
561	17 25 40.24	.32	+05 04 41.8	4.1	12	1	26	.B98	27.8	20.8						-10369	13	1970	71					
562	17 26 32.08	.15	+07 25 30.0	3.1	189	29	72	.9AB	16.5	14.5														
563	17 29 43.62	.46	+08 21 19.0	2.7	6	1	20	.AAC	31.4	21.4	K5	+022110	.7	122499	1.1	00306	23			ED+02	3349	159186		
564	17 30 42.88	.25	+02 28 24.2	5.0	17	1	11	.9B	26.0	18.5	K5	+022110	.7	122499	1.1	00306	23			ED+02	3349	159186		
565	17 30 43.27	.22	+00 08 09.9	3.6	43	6	5	.A	22.0	16.2	MA	+002088	3.2	122500	3.2	00305	5	1981	90	ED+00	3717	159187		
566	17 31 24.66	.28	+01 56 46.3	6.0	46	6	5	.A	22.0	16.2						00307	29	1963	156					
567	17 32 22.39	.30	+03 23 30.8	4.9	12	1	6	.BA	27.1	18.5	K5	+032099	1.0	122530	1.0					ED+03	3450	159468		
568	17 33 04.43	.27	+05 02 52.8	6.1	21	2	12	.9B	28.7	19.2	MA	+052283	.7	122541	1.4	+10332	27			ED+05	3428	159468		
569	17 35 17.56	.15	+08 38 56.7	4.8	4	0	6	.A	32.4	20.3	K2	+082144	1.4	122581	2.5	00309	8			ED+08	3457	160060		
570	17 35 32.51	.17	+04 05 11.0	4.1	18	2	18	.8AC	28.1	18.2	K5	+072238	1.0	122587	1.7					ED+07	3423	160157		
571	17 35 43.82	.34	+07 05 03.8	4.1	10	1	28	.9B	30.9	19.5	K5	+072238	1.0	122587	1.7					ED+07	3423	160157		
572	17 36 30.31	.32	+06 05 15.7	3.7	11	1	20	.AB	30.1	18.9	MC	+062104	1.0	122603	1.4					ED+06	3483			
573	17 36 41.80	.24	+04 27 08.2	5.1	9	1	12	.AB	28.6	18.1	MC	+042161	1.7	122609	3.0	00311	12			ED+04	3470			
574	17 36 55.05	.12	+01 37 50.5	4.1	24	3	7	.AB	26.0	16.7	K0	+032113	3.5	122615	3.2	00312	18			ED+03	3466	160355		
575	17 37 01.27	.23	+03 25 05.5	3.6	19	3	7	.A	27.6	17.5	K0	+032113	3.5	122615	3.2	00312	18			ED+03	3466	160355		
576	17 37 31.17	.44	+07 49 37.9	4.8	6	1	12	.8A	31.8	19.4	K0	+072208	1.2	122627	1.2					ED+07	3434	160509		
577	17 37 35.61	.27	+02 07 35.7	3.4	103	10	14	.9A	22.6	14.8	MB	-021051	1.4	122637	1.2	00313	10	1995	116	ED+02	4425	160471		
578	17 37 53.78	.31	+06 35 22.5	4.8	11	2	5	.8EC	30.7	18.8	K2	+082109	1.0	122630	1.0					ED+06	3490	160558		
579	17 38 33.14	.17	+04 33 46.4	3.9	10	1	5	.AB	28.9	17.7	K0	+062112	.3	122646						ED+06	3498	160781		
580	17 39 05.76	.29	+06 20 12.4	4.7	17	2	39	.AB	30.6	18.4										ED+04	4332	160869		
581	17 39 05.87	.27	+06 45 07.2	3.9	7	2	13	.9E	31.0	18.6	MA													
582	17 39 55.72	.23	+04 49 37.9	2.7	100	23	10	.E4	20.5	12.9														
583	17 40 29.66	.24	+03 47 30.1	3.1	37	0	4	.AA	21.5	13.3														
584	17 40 37.34	.15	+03 52 10.2	2.1	37	0	4	.AA	21.5	13.3														
585	17 40 59.50	.22	+04 35 15.7	3.7	237	31	106	.9AA	29.2	17.2	K0					00316	13			ED+04	3489	161096		
586	17 45 01.70	.28	+05 37 14.5	4.3	7	1	8	.A	30.7	16.8	K5	+052337	.7	122746	.7	00317	15	2000	62	ED+05	3468	161820		
587	17 45 06.59	.21	+03 37 38.6	2.2	86	11	8	.9A	22.2	12.4	MB					00310	19	2008	22	ED+03	4177	161800		
588	17 45 26.37	.29	+06 25 09.4	4.7	36	4	55	.A9B	31.4	17.0	MA	+062128	.7	122757	.7	+10336	34			ED+06	3532	161885		
589	17 46 17.06	.12	+03 36 12.2	3.9	17	2	7	.A	28.9	15.6	K5					00321	6							
590	17 48 15.02	.28	+04 25 45.4	3.0	9	1	10	.9EA	29.9	15.5	K5					122821	.7			ED+04	3530	162387		
591	17 48 34.07	.22	+06 43 03.7	4.4	8	1	12	.A	32.1	16.5	K5	+052349	.7	122827	1.1					ED+05	3521	162486		
592	17 48 37.08	.28	+05 14 27.6	5.1	14	2	19	.B	30.7	15.8	K5													
593	17 49 12.02	.17	+05 00 56.3	3.2	10	0	6	.A	21.5	10.8	K5	+042211	.7	122846		00325	12			ED+04	3541	162648		
594	17 49 31.48	.27	+04 29 53.5	5.8	35	4	24	.AAA	30.1	15.3	K5													
595	17 49 34.00	.29	+07 09 47.5	3.6	7	1	8	.A	32.6	16.5	MO	+072283	.7	122849	1.9					ED+07	3490			
596	17 49 55.05	.26	+06 46 42.2	4.7	41	6	49	.AB	32.3	16.2	MA	+062141	.3	122856	.5	+10337	26			ED+06	3522	162753		
597	17 50 57.62	.28	+06 07 59.1	6.0	22	7	6	.B	20.6	10.1	K5													
598	17 50 57.62	.26	+01 16 52.5	3.3	44	3	6	.A3	27.3	13.7	K5									ED+01	3528	162774		
599	17 50 26.71	.19	+02 34 09.1	3.1	190	22	50	.9AB	23.8	11.7	MC					141939	3.2	00327	33	2020	114	ED+02	4482	162812
600	17 50 34.46	.17	+05 55 07.3	4.0	9	1	6	.B	20.9	10.1	K0					141942				ED+05	4523	162834		
601	17 51 01.15	.15	+05 30 34.5	4.6	9	1	10	.9B	31.3	15.4	K2	+052367	.7	122916	.8					ED+05	3542	163311		
602	17 52 49.65	.31	+05 42 41.0	4.1	16	1	21	.9B	31.6	15.1	K2	+052367	.7	122916	.8					ED+05	3542	163311		
603	17 53 31.89	.20	+01 24 12.9	3.8	60	6	5	.9B	25.3	11.6	MA	-012155	.7	141966	1.7	00330	29			ED+01	3419	163403		
604	17 54 08.97	.43	+06 25 37.5	2.8	9	0	6	.A	20.9	9.1	K5													
605	17 54 14.49	.31	+06 50 43.8	3.3	13	2	24	.8B	32.9	15.3	K5	+062152	.5	122943	1.1					ED+06	3576	163610		



EIC	R.A.1950	SORA	DEC.1950	SODC	FL	SOFL	OBS	1234	L	B	TYPE	AGK3	EAG	SAO	ESA	THSS	ETH	AFGL	EAF	....DM.....	HD
606	17 56 19.91	.09	-06 38 32.2	3.5	27	6	4	.9.B	20.9	8.5	K5			142005	5.6	-10368	3			BD-06 4688 163932	
607	17 56 41.64	.28	-06 06 30.9	4.9	36	7	7	.C.9	21.4	8.7	MA			142010	.5	-10339	24			BD-06 4690 164014	
608	17 57 37.33	.17	-04 49 06.6	3.1	43	6	6	.B.9	22.6	9.2	K0			142012	1.4	00333	32			BD-04 4384 164064	
609	17 57 37.38	.33	-06 07 21.7	3.4	11	12	9.AD	32.6	14.2							00344	68				
610	17 58 03.93	.37	-05 37 01.5	4.9	19	2	24	9AA	32.2	13.9						00345	42				
611	17 59 25.70	.37	-08 26 58.5	1.3	37	5	144	9B39	34.9	14.8						00346	38				
612	18 00 04.79	.41	-07 45 33.1	2.4	6	1	10	.8.A	34.4	14.4	M2	+072317	3.3							BD+07 3534	
613	18 02 56.06	.35	-02 30 02.1	4.4	50	5	6	.A.A	29.9	11.4	K0	+022199	5.0	123107	4.8	00335	12			ED+02 3482 165341	
614	18 03 45.64	.17	-03 23 45.9	2.4	32	3	9	.9AB	30.8	11.6	M4	+032193	.3			00336	9			ED+03 3588	
615	18 03 59.15	.18	-08 13 37.2	2.6	25	4	9	.C.9	20.5	6.1						-10395	13	2065	44		
616	18 04 33.35	.18	-05 45 11.8	3.6	10	1	4	.9.B	22.7	7.1											
617	18 04 43.65	.31	-08 22 19.9	2.9	24	3	95	9AA	35.5	13.6	G5	+082238	.7	123140	.3	00350	17			ED+08 3582 165760	
618	18 04 54.69	.31	-08 43 33.6	2.7	29	4	236	7AA	35.8	13.7	M5	+062193	.3	123141		00349	19	2070	184	ED+06 3627 165761	
619	18 06 56.22	.30	-06 32 07.4	1.6	84	15	48	9AC	33.8	12.8											
620	18 05 11.25	.49	-08 00 24.4	4.1	8	1	20	A9..	35.2	13.4	M2	+082241	3.7			00351	17	2075	61	ED+08 3588	
621	18 06 01.27	.49	-08 48 48.6	3.1	5	0	39	AA..	36.0	13.5											
622	18 06 09.04	.21	-05 16 43.6	3.9	44	3	36	.AA	32.8	11.9											
623	18 06 36.76	.24	-08 30 21.2	2.5	15	2	14	.AC9	20.5	5.4											
624	18 07 14.01	.30	-08 31 03.7	3.3	10	1	10	.B.A	20.6	5.2											
625	18 08 10.17	.18	-03 18 47.5	5.4	22	3	9	.AA	31.2	10.6	K0	+032217	1.0			00339	11			ED+03 3620	
626	18 08 34.44	.30	-07 52 23.1	3.9	6	1	9	.B.9	35.4	12.6											
627	18 08 47.01	.27	-08 37 52.3	3.0	9	1	8	.A.B	20.7	4.8											
628	18 09 01.89	.47	-07 26 51.7	6.1	15	4	5	.7.C	21.7	5.3											
629	18 09 16.12	.25	-05 27 33.8	3.6	13	2	20	.8AA	33.3	11.3	K5	+052423	.8	123233	1.8					ED+05 3634 166712	
630	18 09 45.93	.48	-08 12 47.8	5.3	6	1	23	A8.D	35.9	12.4	K0	+082251	2.8	123239	2.1					ED+08 3610 166844	
631	18 10 19.99	.15	-04 09 01.6	4.7	23	3	10	.AA	32.2	10.5	MA	+042286	1.4	123253	1.4	00340	7			ED+04 3649 166929	
632	18 11 21.06	.12	-02 22 40.4	2.6	22	1	6	.AA	30.8	9.4	K2	+022228	.3	123271	.7	00341	14			ED+02 3537 167162	
633	18 11 33.07	.25	-05 17 16.0	4.3	17	2	15	.9AC	33.4	10.7	M5	+052431	1.8			00353	178			ED+05 3652	
634	18 11 39.39	.17	-04 12 47.8	5.2	11	2	7	.9B	35.5	10.2	K5	+042291	2.1	123277	3.0	00353	62			ED+04 3658 167218	
635	18 11 39.95	.30	-05 10 49.9	4.5	29	4	19	.AA	33.5	10.7	M8	+052432	2.5			00353	62			ED+05 3653	
636	18 13 34.46	.19	-02 21 34.5	3.0	139	21	78	.9A9	31.0	8.9	M8	+022235	1.2	123308	.7	00343	11	2106	275	ED+02 3547 167654	
637	18 14 07.19	.23	-03 40 27.1	2.6	10	2	6	.98E	32.3	9.4	M3	+032241	1.4	123316	1.4	00344	10			ED+03 3656 167766	
639	18 16 03.50	.55	-08 36 23.7	6.1	5	0	41	.AA	37.0	11.2	K5	+082266	2.5	123344	2.8					ED+08 3642	
640	18 16 44.08	.26	-07 14 17.1	3.5	19	3	41	.9EB	35.8	10.5	K0	+072379	1.7	123353	1.0	00355	11			ED+07 3659 168387	
641	18 17 00.04	.30	-08 04 44.4	4.2	9	1	7	.A.A	22.1	3.3											
642	18 18 20.75	.28	-05 54 46.2	4.3	49	5	29	.9B	34.8	9.5	M5	+052458	2.0	123376	2.0	00356	31			ED+05 3700	
643	18 18 22.19	.24	-03 21 12.2	5.2	20	2	8	.9B	32.5	8.3	G5	+032260	1.9	123377	1.6	00346	6			ED+03 3680 168656	
644	18 18 28.84	.27	-06 19 34.6	2.9	9	0	8	.A.A	22.1	2.9											
645	18 18 42.21	.23	-02 55 08.0	3.4	122	15	30	.9AA	26.9	5.4	K0			142241	2.5	00347	31	2134	95	ED+02 4599 168733	
646	18 20 23.54	.21	-07 10 50.5	3.8	8	1	10	.9AA	36.1	9.6	K2	+072399	.3	123409	.7	00348	43			ED+07 3661 169113	
647	18 20 46.32	.17	-04 31 32.1	2.5	21	1	5	.A..	25.7	4.2											
649	18 21 02.42	.36	-08 54 09.3	3.6	6	1	24	.BA	21.9	2.0											
649	18 21 22.55	.16	-03 35 43.4	4.0	32	8	17	.6C	33.0	7.8											
650	18 21 57.18	.54	-08 44 03.4	3.9	5	0	35	.AA	37.7	10.0	M0	+082284	.5	123445	.3					ED+08 3680	
651	18 22 29.35	.45	-08 17 07.4	3.5	9	1	34	.9C	37.4	9.7											
652	18 23 01.82	.26	-05 44 16.4	3.9	36	11	34	.6C	35.1	8.4	G0	+082288	1.4	123462	1.1					ED+08 3682	
653	18 23 14.13	.40	-03 00 09.0	2.6	15	2	30	.A8B	37.2	9.4						00350	20	2156	167	ED+03 3713 169931	
654	18 24 23.49	.22	-03 52 55.9	3.5	153	24	87	.AA9	33.6	7.2	M8	+032276	.7	123489	1.0					ED+06 3697 169933	
655	18 24 27.26	.36	-08 09 43.9	2.8	15	2	37	.92B	37.5	9.2	K5	+082296	1.5	123491	1.1						
656	18 24 43.96	.34	-07 29 33.3	3.4	72	9	60	.C9A	36.9	8.8						00357	16	2159	176		
657	18 24 48.40	.62	-06 53 39.0	6.8	6	1	7	.A.F	36.5	6.6	K0	+062268	1.4	123502	.7					ED+06 3773 170053	
658	18 24 49.98	.22	-07 05 14.7	4.0	15	2	6	.A	23.3	1.7											
659	18 24 57.96	.30	-08 42 31.6	3.7	39	6	15	.A	22.5	1.3											
660	18 25 10.84	.38	-08 43 51.9	4.6	9	0	5	.A.B	22.5	1.2											



EIC	P.A. 1950	SORA	DEC. 1950	SDDC	FL	SDFL	ORR	1234	L	B	TYPE	AGK3	EAG	SAO	ESA	THSS	ETH	AFGL	EA	DM	HD
661	18 25 20.80	.22	+03 42 58.6	3.9	34	3	13	.9A.	33.6	7.0	K2	+032277	123513	.5	00352	4				80+03 3716 170137	
662	18 25 46.10	.41	+07 55 17.4	4.1	11	2	28	.988	37.4	8.8	K5	+072420	.7 123522	.3						80+07 3702 170270	
663	18 26 05.13	.52	-07 46 25.3	3.5	11	2	6	.C.8	23.5	1.5											
664	18 26 22.14	.37	+06 15 51.8	4.3	18	3	8	.9D	36.0	7.9											
665	18 26 26.52	.40	+08 30 06.8	3.4	6	1	42	CA.	39.0	8.9											
666	18 27 27.83	.29	-08 13 23.1	2.1	17	1	9	A.B	23.2	1.0											
667	18 28 29.92	.35	+08 02 31.9	3.6	16	2	36	.AB3	37.8	8.2	K5	+082316	1.8 123591	1.8	+10361	16			80+07 3724 170780		
668	18 28 48.62	.27	+07 52 18.1	3.6	7	1	19	.A.	37.7	8.1											
669	18 29 54.42	.20	+04 20 42.3	3.5	59	4	28	.AAB	34.6	6.5											
670	18 30 04.91	.34	+07 59 24.3	4.5	5	1	9	.A.	37.9	8.1	G0	+072433	3.5 123603	3.3	00353	37 2180	6		80+07 3729 170899		
671	18 30 04.91	.34	+08 22 53.7	3.5	14	2	9	.9.B	23.4	.3											
672	18 30 09.72	.19	+04 15 29.1	5.0	20	2	15	.9.A	34.6	6.1	K5	+042350	1.7 123619	1.8	00354	6			80+04 3785 171089		
673	18 30 27.55	.28	-07 28 35.7	4.3	25	3	5	.A.A	24.2	.6											
674	18 31 22.27	.20	+03 40 23.8	3.7	21	6	19	.7D	34.2	5.6											
675	18 31 39.62	.21	-01 01 07.6	4.3	43	4	7	.AAB	30.1	3.4											
676	18 31 51.02	.43	+05 42 26.6	4.0	8	1	105	.A.C.	38.8	7.8											
677	18 31 52.70	.44	+07 45 56.1	4.6	9	1	27	.ACA	38.0	7.3											
678	18 31 55.07	.23	-08 37 12.7	4.3	12	2	13	.B.9	23.4	.2											
679	18 32 07.84	.32	-08 39 07.2	2.6	16	1	16	.A.A	23.4	.3											
680	18 32 26.13	.32	+07 01 35.7	3.9	20	2	11	.A.9	37.4	6.9	M5	+072443	1.1	142408	1.4	+10362	23		80+06 3849		
681	18 32 28.96	.25	-03 16 59.8	2.7	131	21	101	.9AA	23.8	.2	K0									80+08 4638 171443	
682	18 32 46.89	.22	-08 43 52.3	3.5	16	1	17	.9.B	23.4	.4	K2										
683	18 32 57.16	.30	+06 25 04.4	3.2	26	3	7	.ACA	36.9	6.5											
684	18 33 35.51	.32	+07 38 38.9	3.5	40	9	51	.786	38.1	6.9											
685	18 33 37.27	.35	-08 55 12.7	2.7	23	2	17	.AA	23.3	.7											
686	18 34 21.33	.16	-07 39 46.3	2.3	101	18	10	.AA	24.5	.3											
687	18 34 44.06	.21	-02 41 52.0	3.5	125	18	24	.A.9	29.0	1.9											
688	18 34 56.97	.09	+03 10 34.6	3.8	12	2	4	.89	34.2	4.6	K5	+032297	2.5						80+03 3757		
689	18 35 55.22	.29	-08 37 08.7	3.9	7	2	9	.7.D	23.8	1.1											
690	18 35 57.48	.18	+08 47 20.4	2.7	537	73	177	.8AA	39.3	6.9	PD	+082342	7 123744	1.0	+10366	22 2213	105	60+08 3780 172171			
691	18 36 32.37	.24	+01 38 31.2	4.9	19	2	6	.A.	33.0	3.5											
692	18 37 15.79	.55	+05 41 08.5	4.1	4	0	34	.AC.	39.4	6.6	K0	+082348	1.4 123779	2.4	00361	35		80+08 3791 172401			
693	18 37 17.54	.21	-07 50 17.1	2.7	42	6	7	.A.A	24.7	1.0	K0										
694	18 39 15.14	.27	+06 23 12.4	3.5	42	4	31	.A.9	37.6	5.1											
695	18 39 30.81	.30	+06 46 10.5	3.7	21	3	9	.AB	37.9	5.2	NP	+062329	2.9 123817	3.2	+10370	36		80+06 3898 172804			
696	18 39 31.29	.07	-02 43 13.3	2.6	41	4	4	.A.	29.4	.8											
697	18 39 48.33	.21	-02 20 26.8	2.2	135	29	14	.28	29.9	1.0											
698	18 39 51.88	.33	-08 35 00.9	9.9	7	1	4	.9.D	24.3	1.9											
699	18 39 54.38	.25	+04 34 19.9	2.7	20	2	5	.AA	36.0	4.1											
700	18 40 06.64	.36	+03 35 02.7	4.4	4	0	9	.AC.	39.6	5.9											
701	18 40 25.48	.39	+06 15 30.6	4.1	6	2	16	.8.F	39.4	5.7											
702	18 40 38.85	.26	+06 43 19.5	4.6	23	3	13	.588	39.0	4.9	K2	+062335	1.9 123838	2.5	+10372	21		80+06 3905 173027			
703	18 43 00.93	.12	-05 38 58.9	5.5	25	2	6	.CB	27.3	1.3											
704	18 43 17.25	.31	-08 38 31.2	2.5	15	3	12	.8.A	24.7	2.7											
705	18 43 19.89	.28	+08 41 21.1	3.1	57	12	119	.993	40.1	5.2	M2	+082371	.3 123894	1.7	+10377	44		80+08 3835			
706	18 43 38.67	.43	+08 09 50.0	2.9	9	1	29	.A.A	39.7	4.9											
707	18 44 00.18	.42	+08 02 35.8	3.2	5	0	16	.A.A	39.6	4.8	K5	+082376	.7 123907								
708	18 44 48.52	.25	-05 45 40.3	4.9	49	8	4	.8C	27.4	1.7	KOP										
709	18 44 53.32	.27	+05 23 58.2	3.7	52	5	28	.9AA	37.3	3.4											
710	18 47 00.02	.33	+08 32 09.2	2.8	35	3	162	.99A	40.4	4.4											
711	18 47 00.16	.07	-05 58 14.5	2.2	34	3	3	.89	27.5	2.3	K0										
712	18 47 36.98	.19	-07 56 00.1	2.6	26	35	50	.8A	25.8	3.4	NB										
713	18 47 39.93	.35	+07 02 45.2	1.4	14	2	6	.89	39.1	3.5											
714	18 48 00.40	.29	+07 23 56.4	3.9	7	1	11	.A.D	39.5	3.6	K5	+072508	1.8 123962	2.6				80+07 3862 174487			
715	18 48 52.64	.30	+08 01 17.0	2.9	10	2	20	.9.A	40.1	3.7	K5	+082398	.7 123975	1.0				80+07 3867 174666			

EIC	R.A.1950	SORA	DEC.1950	SDDC	FL	SOFL	OBS	1234	L	B	TYPE	AGK3	EAG	SAO	ESA	THSS	ETM	AFGL	EAF	DM	MD
716	10 51 19.44	16	+00 35 40.9	3.7	45	3	8	8	33.8	-2						00389	100	2272	101		
717	10 52 33.31	34	+08 11 48.8	3.4	27	3	65	9AA	40.7	3.0						+10385	26				
718	10 52 44.27	32	+08 15 06.4	3.5	22	1	6	AA	26.1	-4.6						-10475	7				
719	10 53 00.40	38	+08 17 16.4	3.2	4	2	31	8.8A	40.8	-2.6											
720	10 54 24.28	23	+04 37 00.1	4.4	19	4	18	49C	39.6	1.8	K5	+042425	.8	124082	1.2					BD+04 3923 175786	
721	10 54 51.93	36	+06 37 50.5	3.9	30	4	18	43	4.0	-1.0	A2	+062381	1.4	124093	2.8	+10387	23			BD+06 3984	
722	10 55 39.64	30	+08 11 22.9	3.6	19	8	43	4.0	-1.0	2.3											
723	10 55 47.37	32	+07 55 08.0	3.4	15	2	28	9C9	40.8	2.1	M2	+072533	.3							BD+07 3911	
724	10 55 55.65	25	+04 35 46.6	3.4	100	20	65	AA	37.9	-6						00402	35	2288	47		
725	10 56 03.71	34	+06 38 47.7	4.4	36	3	14	AA	39.7	1.5										2290 30	
726	10 56 59.44	30	+05 18 27.0	4.6	46	7	37	AA	38.6	.7						+10391	6	2296	212		
727	10 57 15.86	25	+06 01 02.2	4.2	12	2	6	B.9	39.3	.9											
728	10 57 26.92	38	+08 12 30.9	3.1	6	1	24	A.C	41.3	1.9											
729	10 57 52.50	26	+04 50 08.8	4.6	13	3	13	68C	39.3	.3											
730	10 58 58.82	39	+08 15 06.1	3.7	27	4	72	7AAA	41.5	1.6											
731	10 59 00.33	16	+05 48 41.7	5.5	68	7	4	7E	39.9	-2	K0			142931	1.7	-10483	10	2302	132	BD-05 4840 176878	
732	10 59 15.43	34	+05 21 54.0	3.9	8	2	7	7E	39.9	-2						+10395	1				
733	10 59 22.29	34	+07 44 27.9	3.1	20	2	31	9AA	41.1	1.3	K5	+072546	1.9	124172	2.3	+10396	11			BD+07 3934 176826	
734	10 59 56.54	22	+04 45 31.3	3.6	16	1	8	9A	39.5	-2											
735	10 59 57.82	33	+08 17 59.2	3.4	30	3	58	99A	41.6	1.4	K2	+082445	1.6	124184	2.8	+10398	116			BD+08 3951 176981	
736	19 00 14.42	31	+08 22 54.1	3.1	63	13	91	B9A	41.7	1.4						+10399	13	2305	200		
737	19 00 39.67	27	+03 59 58.2	3.4	13	1	6	6C8	37.9	-7											
738	19 01 02.92	26	+07 26 15.7	3.3	125	46	96	A470	41.0	.8											
739	19 01 10.29	28	+08 18 00.0	2.8	19	1	6	A9	41.8	1.1	NP			142985	1.1	-10486	11	2314	85	BD-05 4858 177336	
740	19 01 43.77	21	+05 45 37.8	2.5	432	73	44	AA	39.3	-5.5	MB	+022374	1.0	124235	1.0	00409	8			BD+02 3776 177494	
741	19 02 16.11	16	+02 54 27.0	3.6	43	4	9	AA	37.1	-1.6											
742	19 02 22.50	24	+03 55 56.1	2.7	8	2	7	7C	39.0	-1.2											
743	19 02 33.19	30	+08 08 26.1	2.9	8	1	18	9A	41.8	.8	MO	+082456	124241	1.0				2316	302	BD+08 3961	
744	19 02 33.30	19	+01 31 55.9	2.6	71	4	10	AA	35.9	-2.3	MA	+012236	1.0	124242	.5	00411	5			BD+01 3880 177550	
745	19 03 48.62	27	+05 35 37.6	5.2	18	1	8	6B	39.7	-7											
746	19 03 57.47	24	+08 09 07.2	2.9	379	104	329	AF80	42.0	.5	MD	+082461	.3	124266	.8	+10406	5	2324	133	BD+08 3970 177940	
747	19 04 10.83	24	+07 04 20.6	3.3	122	16	187	BAAA	41.1	-2	M2	+072569	1.2			+10407	34	2326	49	BD+06 4025	
748	19 05 13.79	22	+05 20 59.2	2.8	11	1	8	AA	39.6	-1.1											
749	19 05 34.15	22	+06 13 38.2	3.1	187	27	132	A8A8	40.4	-8						+10408	45	2329	105		
750	19 06 15.82	12	+03 11 15.0	2.6	17	2	4	7.8	37.8	-2.4						00414	9				
751	19 07 01.31	25	+04 54 46.2	3.7	11	2	5	8	39.4	-1.7											
752	19 07 22.48	38	+07 08 57.4	3.3	7	1	8	9A	41.5	-8											
753	19 10 12.62	36	+06 47 50.2	3.9	16	1	9	9C	41.5	-1.5	MA	+062433	.7	124369	1.2	+10411	12			BD+06 4051 179510	
754	19 11 23.42	21	+02 32 17.8	2.8	79	15	13	8B	37.8	-3.8	MA	+022399	124413	.7	00416	7				BD+02 3825 179820	
755	19 12 21.90	23	+04 09 14.7	3.6	18	5	9	8C	39.4	-3.3						00417	34				
756	19 12 41.99	20	+07 08 09.2	2.8	270	145	52	5F	39.3	-8.5	S4		143164	.7	-10497	27	2349	23			
757	19 16 24.93	25	+04 12 00.3	5.9	17	3	10	9C	39.9	-4.1						00422	36				
758	19 16 44.29	19	+05 00 31.3	3.9	15	1	10	AA	40.7	-3.8											
759	19 17 35.30	19	+03 07 50.5	2.3	157	30	23	7A	39.0	-10.0						-10502	27	2368	105		
760	19 17 51.51	32	+07 47 35.8	3.1	11	1	11	AA	43.2	-2.8											
761	19 18 09.55	16	+04 35 50.6	2.0	57	0	4	AA	32.2	-8.6	K5		143296	3.0	00425	15				BD-04 4781 181475	
762	19 18 35.52	30	+05 01 01.2	3.6	17	2	11	AA	40.9	-4.2	K5	+052713	1.9	124533	1.4	+10417	22			BD+04 4073 181636	
763	19 20 01.70	19	+04 30 04.3	3.2	11	0	6	BA	40.6	-4.8	M2	+042509	1.4			00426	61			BD+04 4080	
764	19 20 05.78	27	+03 19 48.7	5.1	3	3	4	BA	33.6	-8.4						-10510	20				
765	19 22 15.24	24	+08 50 52.4	4.3	9	1	7	AA	38.8	-11.4											
766	19 22 24.90	19	+07 32 52.4	4.3	9	1	7	AA	43.6	-3.9											
767	19 23 30.57	36	+08 06 07.5	3.3	21	2	53	AA	44.2	-3.8						+10419	28				
768	19 24 48.67	31	+06 58 03.0	2.1	23	8	12	AA	43.3	-4.7											
769	19 25 46.69	27	+05 25 44.4	3.3	18	0	12	AA	42.1	-5.6	MB	+052736	1.4	124660	1.2	+10423	9			BD+05 4154 183208	
770	19 26 18.90	21	+04 44 22.2	4.9	27	3	20	A9	41.5	-6.1						00434	7				

EIC	R.A.1950	SOPR	DEC.1950	SODC	FL	SDFL	OBS	1234	L	B	TYPE	AGK3	EAG	SAO	ESA	THSS	ETM	AFGL	EAF	....DM....	MD
771	19 26 31.82	.37	+07 56 09.9	3.9	9	1	23	.6A	44.4	-4.6	K5	+072643	.3	124676		00436	4			BD+07 4087 183365	
772	19 26 42.57	.13	+02 45 26.6	4.8	55	5	24	.AB	40.0	-7.3	K5	+022445	.3	124698	1.6	00437	1	2398	103	BD+02 3904 183589	
773	19 27 39.74	.21	+02 47 54.6	3.3	70	5	7	.AA	40.7	-9.0	MA					00438	71	2400	45		
774	19 27 40.07	.31	+02 56 26.8	4.8	53	12	9	.B9	36.6	-10.0	MA					00439	39	2402	50	BD-03 4612 183630	
775	19 28 02.85	.20	+02 53 40.9	2.7	175	25	34	.AA	34.9	-7.0	K2	+032479	2.1	124712	1.9	00440	26			BD+03 4045 183707	
776	19 28 14.80	.24	+03 32 42.7	5.5	19	1	8	.A9	40.7	-6.4	K2	+052752	.3	124770	.7					BD+05 4185 184176	
777	19 30 31.89	.34	+05 57 51.1	6.3	11	1	8	.98	43.1	-6.9	MB	+042552	.3	124777	.3	00443	32	2412	74	BD+04 4152 184201	
778	19 30 39.18	.20	+04 55 11.4	3.3	133	18	98	.AA	42.2	-6.4	MB					+10427	37				
779	19 30 53.47	.27	+06 09 11.6	4.5	44	7	36	.AD	43.3	-6.4	MB					+10428	50	2415	61	BD+05 4190 184313	
780	19 31 17.87	.20	+05 21 22.3	3.4	253	30	116	.AA	42.7	-6.0	K0	+052755	.7	124789	.3	00430	41			BD+07 4132 184406	
781	19 31 38.92	.29	+07 16 12.0	3.0	53	6	40	.A.A	44.4	-6.3	K2	+072673	1.2	124799	.7	+10431	54			BD+06 4199 184542	
782	19 32 17.13	.22	+07 02 06.7	2.8	13	1	16	.A.A	44.3	-8.8	MB	+072678	2.7	124807	4.1	00444	19				
783	19 32 17.03	.19	+01 59 43.6	4.9	23	1	7	.AA	39.8	-7.1	MB					+10432	56				
784	19 32 12.45	.29	+05 11 07.4	5.7	25	3	18	.AAC	43.0	-7.8	MB										
785	19 35 25.60	.28	+06 36 53.2	2.7	16	2	14	.A9	44.3	-7.1	MB										
786	19 37 25.41	.28	+05 50 56.4	3.8	33	3	21	.A.A	43.9	-8.0	MB										
787	19 38 29.34	.11	+04 02 13.5	2.9	124	20	8	.A.A	35.1	-12.8	MB										
788	19 41 15.26	.23	+03 37 17.0	4.0	49	12	19	.B6	42.3	-9.9	MB										
789	19 43 01.89	.38	+07 39 43.9	4.1	17	3	28	.A9	46.1	-8.3	MB										
790	19 43 44.95	.16	+01 34 05.5	4.0	71	9	10	.AB	40.8	-11.4	MB										
791	19 46 07.03	.26	+03 34 17.7	4.3	57	5	14	.AB	42.9	-10.9	MB										
792	19 47 24.38	.21	+07 44 32.6	2.8	183	68	39	.E60	32.7	-16.5	K5										
793	19 48 34.58	.21	+02 35 20.0	4.6	31	3	4	.B9	37.6	-14.4	K5										
794	19 48 57.16	.24	+03 57 35.2	4.3	18	2	10	.B9	43.6	-11.4	K0	+032555	.3	125141		00455	33			BD-02 5133 187660	
795	19 49 10.60	.22	+07 22 15.2	6.0	8	1	7	.A.A	46.6	-9.8	MA	+072775	2.2	125147	3.5	-10826	16			BD+03 4172 187734	
796	19 51 25.41	.39	+08 42 20.8	1.8	57	6	8	.AA	32.3	-17.8	K5										
797	19 51 49.43	.34	+08 19 47.2	3.1	35	3	74	.9.A	47.8	-9.9	K0	+082657	1.0	125210	.7	+10442	25			BD+07 4253 187814	
798	19 52 02.28	.26	+06 51 28.8	3.3	9	0	4	.A.A	46.5	-10.6	K0										
799	19 52 51.28	.34	+06 16 35.7	4.0	59	8	37	.CA9	46.1	-11.1	K0										
800	19 53 22.41	.25	+06 03 25.2	5.1	16	1	15	.A.A	46.0	-11.3	MB	+062619	1.1	125242	.3					BD+06 4357 188512	
801	19 54 29.13	.26	+03 18 45.3	4.4	16	2	13	.A.A	43.1	-10.4	K5	+082666	1.0	125269	2.0					ED+05 4344 188614	
802	19 55 00.12	.21	+02 01 15.9	3.0	170	40	32	.B7	38.9	-15.6	K5									BD+08 4275 188858	
803	19 55 10.34	.35	+09 11 39.4	1.7	14	3	8	.96	32.2	-18.8	K2										
804	19 55 11.71	.35	+06 25 37.9	5.6	10	1	8	.A.A	46.6	-11.5	MA										
805	19 58 05.40	.49	+08 18 45.7	2.8	11	2	16	.A.C	48.6	-11.2	MA	+082682	.3	125349	1.2					BD+08 4296 189601	
806	19 58 18.21	.24	+04 18 19.8	3.6	13	2	10	.A.A	45.1	-13.2	K2										
807	19 58 33.86	.28	+03 25 06.9	3.6	33	5	67	.9.B	48.7	-11.3	K2										
808	20 00 43.41	.23	+04 35 19.6	3.1	28	3	12	.A.A	45.6	-13.6	K5	+082685	1.6	125355	2.5	+10447	45			BD+08 4300 189695	
809	20 01 03.62	.23	+09 05 16.4	4.5	10	1	16	.A.B	48.8	-12.0	MB	+042652				00463	21			BD+04 4325 190095	
810	20 01 41.63	.23	+07 08 07.8	2.8	16	1	23	.AB	48.0	-12.6	K0	+082694	.7	125390	.7					BD+07 4353 190194	
811	20 02 15.79	.19	+04 04 39.7	2.9	12	1	7	.A.A	45.4	-14.2	MS	+042662	.3			+10448	18			BD+06 4416 190327	
812	20 02 34.08	.15	+04 26 03.6	3.1	21	2	6	.A.A	45.7	-14.1	MS										
813	20 05 15.02	.30	+05 54 28.0	5.4	25	4	14	.A8	47.4	-13.9	MB										
814	20 07 47.66	.15	+06 25 08.0	2.8	131	24	9	.A.A	36.4	-20.4	MB										
815	20 07 54.12	.21	+01 45 35.0	3.1	119	18	11	.AB	40.7	-18.3	MB	-012451	1.2	144135	1.2	00467	11	2515	96	BD-02 5195 191535	
816	20 08 41.92	.17	+06 11 56.4	3.6	35	2	27	.A.A	48.1	-14.5	MB	+062674	.3	125533	.5	+10454	29			BD+05 4435 191707	
817	20 09 35.56	.31	+07 32 01.6	3.0	51	14	49	.A9	49.4	-14.1	MB	+072866	.3	125559	1.0	+10457	8			BD+07 4398 191924	
818	20 10 21.95	.26	+06 08 55.3	2.7	11	1	12	.A.A	48.2	-16.9	MB										
819	20 11 50.90	.23	+00 09 27.0	3.6	47	7	4	.B.8	42.7	-18.4	MB	-002591	2.9			00470	28	4261	75	BD-00 3950	
820	20 13 27.02	.25	+07 30 57.6	3.1	109	17	148	.7AB	49.9	-14.9	MB	+072884	1.2	125625	.7	+10461	8	2537	136	BD+07 4422 192689	
821	20 14 33.09	.34	+06 54 57.9	4.2	41	6	37	.B.A8	49.5	-15.4	MB	+062696	.3	125646	.8	+10462	26			BD+06 4490 192873	
822	20 16 02.13	.40	+07 25 38.2	3.4	12	1	23	.AA	50.1	-15.5	MB										
823	20 17 49.94	.09	+06 39 50.4	4.2	11	2	5	.9A	49.7	-16.3	K0										
824	20 20 41.78	.21	+05 10 53.4	2.1	17	1	13	.AA	48.8	-17.6	K0										
825	20 20 48.38	.31	+07 47 40.5	3.1	43	5	64	.B.9A	51.1	-16.3	K0	+052950		125747	.7	+10465	14			BD+04 4434 194013	



SORA	R.A.1950	DEC.1950	SODC	FL	SDFL	OBS	1234	L	B	TYPE	AGK3	EAG	SAO	ESA	THSS	ETM	AFGL	EAF	.....DM.....		
826	20 21 21.62	+00 46 59.5	3.9	50	7	6	B..9	44.8	-20.0	K5	+012440	2.6	125772	2.9	00475	22	2568	129	80+00 4496 194263		
827	20 22 09.23	+01 12 20.8	2.2	32	2	7	A..A	45.3	-20.0	K5	+062743	1.5	125890	1.1	00475	25			80+05 4532 195449		
828	20 26 47.22	+06 11 11.4	3.9	14	2	19	.BA.	50.8	-18.8	M2	+062745	1.5	125903	.3					80+06 4554		
829	20 29 16.94	+06 27 43.9	2.7	14	2	20	.BAB	51.1	-18.8	M2	+012461	1.1	125911	2.7	00480	80			80+01 4310 195617		
830	20 29 48.35	+01 57 45.7	6.1	26	5	4	E..9	47.0	-21.2	K2	+052996	1.7	125975	2.1	10472	23			80+04 4490 196055		
831	20 32 17.92	+05 03 34.9	3.7	15	2	12	.A..	50.2	-20.2	MA	+032661	3.2	125998	2.5					80+03 4375		
832	20 33 08.30	+03 49 29.2	4.9	15	2	13	.9A.	49.2	-21.0	M5											
833	20 37 49.08	+07 27 26.6	4.4	14	2	28	.AA9	53.2	-20.0	M9	+082838	.7			10476	45			80+07 4531		
834	20 39 34.05	+08 07 33.9	2.9	26	2	10	.AA.	54.0	-20.0	M9					10477	18					
835	20 44 16.27	+06 16 39.3	4.2	14	2	23	.7AB	53.0	-22.0	MD	+022640		126200	.8	00491	10			80+01 4359 197942		
836	20 44 17.56	+02 15 12.6	3.4	141	16	39	.BAA	48.3	-24.2	MD											
837	20 44 28.81	+05 40 28.9	3.0	19	2	11	.A..	52.5	-22.4	MA											
838	20 45 05.83	+05 12 43.5	2.7	315	41	24	.ABA	42.2	-28.1	MA	-002687		144814	.3	-10548	15	2652	87	80-05 5378 198026		
839	20 46 42.81	+00 44 57.4	3.4	225	38	22	.BAB	46.8	-28.2	MB					00444	46	2658	94	80-01 4057 198272		
840	20 47 56.30	+05 54 25.2	3.0	56	6	17	.BAB	53.2	-23.0	MB					10479	4	2662	132			
841	21 02 05.15	+05 18 11.5	4.7	47	7	21	.B.A.	54.8	-26.3	K2	+053079	.3	126518	.8	00495	32			80+04 4606 200644		
842	21 03 17.94	+00 24 42.4	3.3	199	100	36	.C6H	49.6	-29.6	K2					00499	14	2702	10			
843	21 03 39.26	+07 37 45.1	2.5	45	4	34	.AAA	57.2	-25.3	MB	-002732	1.6	145121	1.1	00500	14	2712	64	80-00 4163 201098		
844	21 04 58.17	+00 21 56.1	5.0	96	16	13	.9AC	49.9	-30.0	MB	+002643		126556	.7					80+00 4663 201159		
845	21 05 18.12	+00 57 05.4	3.7	15	2	7	.B.9	51.2	-29.3	K5	+012550	3.0							80+00 4666		
846	21 05 30.15	+01 17 57.8	2.8	15	2	4	.A.A	51.6	-29.2	M2											
847	21 05 55.34	+03 00 57.6	3.8	25	3	9	.AA.	53.3	-28.3	K5											
848	21 05 59.68	+07 06 47.1	3.3	47	4	23	.B.A.	56.8	-28.2	K5	+062888	1.1	126566	.7	00501	38	2717	197			
849	21 08 46.12	+05 03 22.3	2.8	11	0	5	.A..	55.7	-27.8	M0	+053095	4.8	126603	4.1	10487	13	2716	143	80+06 4754 201298		
850	21 12 00.57	+04 28 55.9	5.9	10	0	6	.A..	55.6	-28.8	K5	+042877	1.4	126642	1.7					80+04 4624		
851	21 12 02.95	+00 06 57.9	5.5	31	5	8	.BA..	51.2	-31.3	K5	+002744	2.5	145229	2.0	00502	14			80+00 4186 202259		
852	21 13 19.41	+25 00 06 57.9	4.4	32	5	24	.AAA	56.4	-28.7	F8				126662	.7	10489	47		80+04 4635 202447		
853	21 15 49.34	+07 32 58.5	3.4	54	6	31	.B.AA	59.1	-27.7	MB	+073118	.5	126695	1.0	10491	28	2737	82	80+07 4660 202816		
854	21 18 30.33	+07 08 29.0	3.4	67	19	34	.9AF	59.2	-28.5	K5	+073125		126719	1.0	10494	19	2751	67	80+06 4802 203591		
855	21 22 40.24	+03 46 18.1	4.0	35	5	7	.B9..	49.2	-35.5	K0					145384	3.8	00503	42	80-04 5446 203926		
856	21 25 56.80	+07 59 36.8	2.6	44	6	24	.9AA	61.2	-29.5	MA	+073145	.3	126818	.5	10496	27			80+07 4696 204445		
857	21 26 31.99	+07 59 23.8	3.8	10	1	12	.9.A.	61.3	-29.6	MA											
858	21 28 39.21	+05 21 31.3	3.8	16	1	15	.BA.	59.3	-31.6	MA	+053142	1.7	126860	2.1	-10545	37	2776	119	80+04 4694 204832		
859	21 30 55.48	+05 47 31.9	3.3	113	11	34	.AAA	48.0	-37.9	G0			145457	.7	10499	21			80+06 5770 204867		
860	21 30 38.44	+05 55 37.2	4.8	15	2	25	.AA.	61.1	-31.1	MB	+012614	1.0	126901	1.0	00504	30	2782	75	80+01 4503 205358		
861	21 32 18.00	+01 36 21.2	3.1	183	36	54	.9AB	56.3	-34.5	MB	+082955	1.0			10500	3					
862	21 36 44.18	+08 04 26.7	3.4	30	3	35	.BA..	63.2	-31.5	M0	+082955	1.0			10500	3					
863	21 37 01.05	+02 01 00.1	4.5	23	0	6	.A.A.	57.5	-35.3	K0	+022761	3.0	126965	2.3	00506	18			80+01 4517 206067		
864	21 37 44.54	+02 00 47.5	2.5	117	12	15	.AAA	53.6	-37.7	M5	-021218	.7	145577	1.7	00507	37	2787	118	80-02 5597		
865	21 38 16.80	+03 40 09.1	4.6	13	2	8	.A9.	59.4	-34.5	K5	+032826	.7	126985	.7					80+03 4599 206262		
866	21 39 45.10	+25 05 27 06.1	3.5	108	16	78	.AAB	61.4	-33.7	MA	+053172	1.5	127002	1.2	10502	34	2792	91	80+05 4850 206497		
867	21 43 56.37	+02 26 39.8	2.5	98	168	24	.C899	54.2	-39.3	MB					145452	.3	00509	22	2806	73	80-02 5631 207076
868	21 49 19.17	+06 56 37.6	2.0	10	0	5	.A..	63.6	-33.7	K5	+062985	2.0	127057	1.7	10506	17			80+06 4900 207166		
869	21 58 40.17	+08 00 57.9	3.1	30	4	41	.7AA.	67.4	-35.7	K2	+063046	.3	127239		10506	17			80+07 4779 209167		
870	21 59 29.07	+06 02 57.8	3.3	15	2	15	.B9.	65.8	-37.1	K2					10507	31					
871	22 00 53.87	+05 11 51.7	3.6	15	2	13	.BA.	65.3	-38.0	K5	+053223	1.9	127256	2.0					80+04 4791 209464		
872	22 03 09.40	+04 48 48.9	4.1	62	7	16	.BAA	65.4	-38.6	K5	+042989	1.7	127285	1.1	00512	9	2843	22	80+04 4800 209747		
873	22 03 12.79	+00 33 48.2	4.3	120	14	24	.A9A	59.9	-42.1	G0			145362	.7	00513	23	2844	64	80-01 4246 209750		
874	22 07 41.01	+05 57 04.3	5.1	13	2	15	.A9.	67.4	-38.7	A2			127340	.7					80+05 4961 210418		
875	22 14 59.53	+04 53 37.3	4.8	31	4	19	.A.A.	68.0	-40.8	MA	+043011	.3	127434	1.4	00515	17			80+04 4837 211516		
876	22 19 03.68	+07 51 37.0	3.3	174	29	27	.A.8.	54.7	-49.5	M9			145493	4.5	10530	45	2889	64	80-08 5858 212062		
877	22 25 19.48	+04 26 32.6	2.3	38	6	3	.88.	70.0	-42.9	K0	+043032	1.6	127540	1.5	00517	44			80+03 4710 212943		
878	22 30 29.08	+05 21 45.7	3.2	120	16	17	.89A	62.7	-52.1	MA			146251	2.9	-10585	15	2935	152	80-05 5843 214983		
879	22 50 02.18	+07 50 42.3	3.0	465	43	23	.AAB	62.2	-55.7	MA			146362	2.6	-10583	2	2977	56	80-08 5968 216366		
880	22 57 15.91	+07 05 13.5	4.7	6	1	11	.C.A	80.8	-46.2	K2	+073325	3.0	127894						80+06 5095 217319		



ETC	R.A.1950	SORA	DEC.1950	SODC	FL	SDFL	OBS	1234	L	B	TYPE	AK3	EAG	SAO	ESA	THSS	ETM	AFGL	EMF	....DM....	WD
831	23 04 18.06	.76	+04 45 52.5	4.1	11	0	9	.AA.	80.8	-49.1	K5	+043109	2.1	127971	2.5	+10529	58	3031	39	ED+04 4959	218303
832	23 06 59.83	.14	+08 24 23.0	3.9	423	56	57	AA..	84.8	-46.5	MB	+083156	2.5	123001	1.8	+10527	33	3039	89	ED+07 4981	218334
833	23 08 41.30	.20	+04 43 55.2	3.8	269	40	91	AA..	82.2	-49.8	MB	+043121	1.6	120019	1.0	+10527	33	3039	89	ED+04 4975	218353
834	23 11 43.82	.25	+06 19 13.0	2.7	229	31	26	AA..	70.9	-58.7	MA			146555	1.4	-10593	17	3049	109	ED-06 6170	218215
835	23 13 16.89	.37	+09 21 39.1	2.9	53	12	24	AA..	67.1	-41.1	K0			146553	3	-10593	3	3054	153	ED-09 6156	219449
836	23 14 18.16	.16	+07 59 57.8	2.3	339	32	24	AA..	80.4	-50.4	K0			146612	1.4	-10597	26	3058	86	ED-08 6076	219574
837	23 14 35.46	.15	+03 00 33.8	2.7	72	17	7	AA..	82.5	-52.0	K0			128085	1.7	+10529	29	3062	32	ED+02 4848	218215
838	23 17 47.51	.27	+05 06 28.6	4.3	41	5	24	AA..	85.4	-50.7	K0	+053366	1.0	128156	1.6	+10532	52	3089	267	ED+04 4997	220009
839	23 22 01.50	.17	+03 26 22.9	4.7	40	4	9	AA..	85.4	-50.7	MA	+033507	.3	128163	1.0	+10530	20	3089	267	ED+02 4864	220557
840	23 25 25.41	.31	+06 06 13.3	4.3	47	3	32	AA..	83.8	-50.9	G5	+063192	.3	128196	.7	+10535	12			ED+05 5173	220534
841	23 31 13.99	.28	+06 01 19.9	3.6	28	4	21	AA..	80.8	-51.7	K5					+10537	13				
842	23 32 53.99	.21	+08 14 34.8	3.3	33	4	59	AA..	93.0	-49.9	K5	+033244	.8	128259	1.0	+10538	1			ED+07 5059	221832
843	23 43 49.84	.22	+03 12 32.7	4.2	563	90	67	AA..	93.3	-55.6	MA	+033043	2.1	128374	.5	+0532	15	3147	79	ED+02 4709	223075
844	23 52 12.74	.25	+00 10 06.2	3.2	212	30	43	AA..	94.1	-59.5	MB	-002999	1.4	128973	1.0	+0535	66	3174	174	ED-00 4535	224052
845	23 56 48.46	.43	+06 35 08.7	7.5	19	0	34	AA..	100.7	-53.7	F5			128513	1.7	+10545	25	3197	89	ED+06 5227	224617
846	23 59 23.66	.23	+06 17 29.7	2.8	395	51	51	AA..	91.6	-65.8	MB			147042	2.3	-10608	24	3197	89	ED-06 6345	224935

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